AUSTRALIAN COLEOPTERA.

NOTES AND NEW SPECIES. NO. XI. [Mostly Elateridae.]

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(Plates viii–ix; one Text-figure.)

[Read 26th July, 1939.]

Colydiidae.

In examining what seemed to be a new species of *Byrsax*, Mr. Zeck found that its tarsal formula was 4–4–4. From the similarity of form, the other members of this genus were then examined, with the result that *Byrsax saccharatus* Pasc. and *B. egenus* Pasc. (= *coxi* Cart.) are seen to be similarly furnished. Both of these are thus true Colydiidae, near the New Zealand genus *Tarphiomimus*. So close must be this relation that for the present I would call them (?) *Tarphiomimus* (*Byrsax*) *egenus* Pasc. and (?) *Tarphiomimus* (*Byrsax*) *saccharatus* Pasc. The remaining members recorded under the genus, *B. macleayi* Pasc. and *B. pinnaticollis* Cart., have heteromerous tarsi.

The following is the new species mentioned above.

Tarphiomimus (?) zig-zag, n. sp.

Convex, oblong; pale brown above, reddish beneath.

Head wide, trilobate, each lobe subtruncate in front, exterior angles subdentate: near base of outside lobes, in one example, can be seen a small conical protuberance. Antennae short, stout, the three apical segments strongly clavate. *Prothorax* widely, arcuately, foliate; externally fringed with about five wide crenulations, the foremost almost level with apical lobe of head; posterior third abruptly excised and narrowed; disk strongly raised, medial area concave, bounded on each side by a pustulose ridge; the outline somewhat variable in the three examples, the most conspicuous features being two subconical pustules overhanging head and two rounded ones at basal third. *Elytra* of same width as prothorax, and of almost equal width for the greater part; widely (subtruncate) rounded behind, with wide lateral foliation, fringed by deep, blunt, crenulations; discal regions with shoulders prominent and widely ridged, with a variable number of conical pustules along sides; medial area with two strongly-raised ridges, forming straight lines at base and on apical declivity, the middle parts forming two wide zig-zags, the intervening area foveate-punctate, with squamose derm; underside squamose-rugulose. *Dim.* 3 × 1½—4 × 2 mm.

Hab.—N. Queensland: Mulgrave R. (H. Hacker).

One of Mr. Hacker's many discoveries. The species is near *T.* (?) *saccharatus* Pasc., but, besides being less than half its size, has the following distinctions: (*a*) All ridges less spinose-pustulose, (*b*) Fewer crenulations to pronotal foliation, (*c*) Elytral spinose ridges replaced by zig-zag elevations. The only evident sexual character lies in the frontal tubercles noted in one example. Holotype in the National Museum.

BUPRESTIDAE.

BUBASTES SUBNIGRICOLLIS, n. sp.

Conico-cylindric, nitid. Head dark blue, prothorax, underside and legs blue-black, tarsi coppery, elytra brilliant coppery, its suture narrowly more brightly metallic, scutellum peacock-blue.

Head very lightly concave, with narrow frontal sulcus, uniformly, closely punctate; eyes large, not prominent, width of head less than that of prothorax at apex. *Prothorax* ($3\frac{1}{2} \times 5$ mm.) very convex, widest near front, sides lightly arcuate, apex subtruncate, front angles wide, base lightly bisinuate, hind angles less than 90°; disk closely and finely punctate, slightly flattened on basal half at middle, with a well impressed medial sulcus, just traceable on apical half. *Scutellum* small, with longitudinal depression. *Elytra* of same width as prothorax at base, lightly narrowed to apex; apices each finely bidentate, with small lunation between teeth; striate-punctate, the seriate punctures distinct on basal half and at sides, elsewhere indistinct; intervals lightly raised and nitid, their interspaces transversely hatched and rugose. *Prosternum* with large, alveolate punctures, *metasternum* and abdomen with finer and more distant punctures. *Dim.* 17 × 5 mm.

Hab.—Western Australia: Wurarga (A. Goerling).

A single example sent by this observant naturalist is remarkable for its nitid and bicolorous surface. While the general colour scheme somewhat follows that of *B. vagans* Blkb., it differs greatly in (1) the colours more strongly contrasted—nitid blue-black thorax and brilliant coppery elytra, (2) the strong transverse ridges of the interspaces between the raised intervals of elytra. Holotype presented to the Australian Museum.

Melobasis impressa Cart.—Further material of this, also of *M. abnormis* Cart. sent by Mr. A. Goerling, together with a helpful field note, enables me to correct an erroneous synonymy (*Trans. Roy. Soc. S. Aust.*, 1937, p. 125). He writes: "I find these" (*impressa* and *abnormis*) "always separate in places about $2\frac{1}{2}$ miles apart—never together, and this is my experience for the last 3 years." An examination of four examples of each gives constant differences as follows:

abnormis (1923)	*impressa* (1936)
Average dimensions, $12\frac{3}{4} \times 5$ mm.	$15\frac{3}{4} \times 6\frac{1}{4}$ mm.
Upper surface subopaque, strongly pubescent.	nitid, almost glabrous.
Pronotum sulcate.	often (in 3 of 4 examples) carinate.[1]
Elytra: costae more, punctures less defined.	vice versa.
impressions subobsolete.	well defined (as in description).

MELOBASIS BELLULA, n. sp.

Elongate-ovate; head coppery with greenish tinge, prothorax variably violet-bronze (each predominating in different examples); elytra blue, with golden markings, as follows: a wide basal band, having similarly wide, trilobed, extensions, namely two lateral, extending half the total length, and a sutural of about half the length of the lateral, and two triangular, subapical markings. Underside purple, often bluish in part, legs and antennae blue.

Head glabrous, densely, finely punctate, eyes not protruding laterally beyond thorax. *Prothorax* widest at base, thence gently, arcuately narrowed to apex, lightly produced in front at middle, base lightly bisinuate, all angles rather wide, the posterior subrectangular; disk with fine, not close, punctures and a smooth medial line. *Scutellum* small, subcircular. *Elytra* lightly widened at shoulders and compressed behind them, narrowly and separately rounded at apex, marginal

[1] Very unusual in the genus.

serrulation evident to apical third. Disk with well-marked subsutural concavity, and a few punctate striae near this, otherwise seriate punctures confused with close general punctures, these dense near base. Underside glabrous, sternal area with round, abdomen with finer, shallow, oval punctures, rather widely spaced; apical segment of ♂ truncate between two spines, of ♀ with oval excision between spines. *Dim.* 6–7 × 2 mm.

Hab.—Western Australia: Wurarga (A. Goerling).

A lovely little species, of which 14 examples were received from the keen naturalist squatter in a prolific Buprestid region, showing little variation in size and markings. Holotype presented to the Australian Museum.

Melobasis spinosa, n. sp.

Narrowly ovate; very nitid greenish coppery-bronze, head green, pronotum with green and coppery sheen; elytra greenish-bronze, purplish near apex; sternal regions, legs and antennae green, abdomen coppery.

Head rather flat, densely and finely punctate, width at eyes wider than that of prothorax at apex. *Prothorax*: apex and base bisinuate, all angles subacute, sides lightly narrowed in a feeble arch from base to apex, disk finely punctate, punctures sparse and distant on basal half, closer (but clearly separate) at sides and apex; medial fovea at base, no medial line. *Scutellum* small, subcircular. *Elytra* of same width as prothorax at base; basal half subcylindric, thence finely tapering to a spinose apex, each elytron terminated by a triangular tooth, the margin between tooth and suture with two small spicules; subapical margins strongly serrate; disk finely seriate-punctate, intervals flat and impunctate. Prosternum densely punctate, rest of underside more sparsely so; apical segment of abdomen strongly bispinose. *Dim.* 8 × 3 mm.

Hab.—Queensland: S. Johnstone River (H. W. Brown).

Two examples, both, I think, male, given me by Mr. Brown some time back, are unlike anything in the genus in the apical structure. Under the Zeiss binocular, each apex appears trispinose. The elytral seriate punctures are regular and clear, almost (but not) striate-punctate. Holotype presented to the Australian Museum.

Melobasis viridisterna, n. sp.

♂. Elongate-ovate; nitid bronze and glabrous above (save for a fine frontal pubescence); prosternum, tibiae, tarsi, antennae and parts of head metallic green, rest of underside coppery and glabrous.

Head densely, very minutely punctate, width less than that of prothorax at apex. *Prothorax*: apex bisinuate, anterior angles acute; base subtruncate, posterior angles obtuse, sides nearly straight, lightly narrowed from base to apex; disk finely transversely strigose, only at sides very densely and minutely punctate, without medial line or fovea. *Elytra* slightly wider than prothorax at base, feebly widening behind middle, thence tapering to apex; subapical margins strongly serrate, the serration continuous to extreme tip; very finely seriate-punctate, the intervals almost flat, with subuniform punctures, especially on apical half, and some transverse strigae. Prosternum forming a rectangular plate, with small triangular process fitting into mesosternum; densely punctate, rest of underside irregularly punctate, abdomen strongly bispinose at apex.

♀. Green colour apparently limited to antennae, tibiae and tarsi. *Dim.* 11–12 × 4 mm.

Hab.—N.S.W.: Cooma (W. Duboulay), 4 examples. Victoria: Kiata, 2 examples.

A species with an unusually fine surface sculpture, the pronotal consisting chiefly of fine strigae, the elytral suggestive of *uniformis* Cart. which, however, is

more convex, with a strongly pilose underside. *M. viridiceps* has a much more strongly punctate pronotum. The flat prosternal plate is a well marked character. Holotype presented to the Australian Museum.

Since the publication of my Revision of the Australian species of the genus *Melobasis*[2] I have added 14 names for new species, tabulated below. Of these 9 appear to be peculiar to Western Australia, three to Queensland and two to New South Wales. Thus Western Australia records 39 out of a total of 81 species, nearly 50% of the Australian species. The genus also occurs in New Guinea, New Caledonia, Fiji, Sumatra, Java, Timor, Borneo and Penang. In Australia it frequents various Leguminous plants, especially the numerous and widely distributed Acacias, while individual species are associated with Cassias, *Daviesia*, *Dillwynia* and *Viminaria*.

Table of Australian Melobasis *described since 1923.*

1. Elytra with prominent costae 2
   Elytra without prominent costae 4
2. Elytra unicolorous ..... *impressa* Cart.
   Elytra patterned 3
3. Elytra purplish, lateral vittae and sutural mark golden ..... *aurocincta* Cart.
   Elytra with defined areas of light and dark bronze ..... *browni* Cart.
4. Elytra unicolorous bronze 5
   Elytra metallic coppery, green, or purple 6
   Elytra patterned 11
5. Pronotum punctate, underside bronze. (Sculpture finer than in *igniceps* Saund.) ..... *marlooensis* Cart.
   Pronotum finely strigose, except near sides, prosternum green in ♂ ..... *viridisterna* Cart.
6. Elytral apices spinose ..... *spinosa* Cart.
   Elytral apices normal 7
7. Elytra striate-punctate ..... *wannerua* Cart.
   Elytra irregularly punctate 8
8. Upper surface blue, elytra sulcate-punctate ..... *pavo* Cart.
   Upper surface otherwise 9
9. Upper and lower surface green (6-7 mm. long.) ..... *pusilla* Cart.
   Elytra violaceous or purple 10
10. Pronotum and underside blue-bronze (12 mm. long) ..... *myallae* Cart.
    Pronotum and underside green (6 mm. long) ..... *parvula* Cart.
11. Elytra striate-punctate (blue with gold vittae) ..... *aurocyanea* Cart.
    Elytra not, or scarcely, striate-punctate 12
12. Elytra green with golden vittae ..... *radiola* Cart.
    Elytra blue, with trilobed basal and preapical mark gold ..... *bellula* Cart.

STIGMODERA (CASTIARINA) PUTEOLATA, n. sp.

Ovate, subconic. Head, prothorax, underside and appendages nitid bronze, the last brassy, elytra dull brick-red with black markings as follows: an irregular medial fascia, widened at suture, extending obliquely to sides, this connected along suture with a wide, sagittate, preapical mark (in two examples narrowly produced to extreme apex) and three small spots—the middle one behind the others—halfway between the fascia and base.

Head widely excavate-canaliculate, with brassy reflections. *Prothorax* convex, apex subtruncate, base bisinuate, sides nearly straight on basal two-thirds, thence narrowed to apex, base without excisions; disk with exceptionally coarse punctures, widely separated on basal half, closer and finer near front, rather strongly pubescent on sides; medial channel wide and deeply impressed throughout. *Elytra* convex, subconical to apex, sides entire throughout, apices rounded; striate-

[2] *Trans. Ent. Soc. Lond.*, 1923, pp. 64-104, with two plates.

punctate, the strial punctures large, crenulating sides of intervals, these sharply convex—the 2nd, 3rd and 5th more strongly so on apical half, each interval with a line of well marked punctures. Underside glabrous, almost impunctate, very nitid. *Dim.* 10·5–12 × 3·5–4·5 mm.

Hab.—Western Australia: Lake Ningham (H. W. Brown).

Three examples examined, two given me by this enthusiastic collector, show a species somewhat like *S. convexa* Cart. in colour and in the entire margins and rounded apex of elytra. It differs strongly in its subcylindric, coarsely punctate prothorax and the more sharply convex elytral intervals and more conical form. Holotype in the Australian Museum.

Stigmodera brevifasciata Cart. = *bifasciata* Saund.—Mr. F. E. Wilson has called my attention to the tarsal claws of this species, which are characteristically those of *Themognatha*. I find the same in its close ally, *S. secularis* Thoms. Both species should thus be removed from the subgenus *Castiarina* to that of *Themognatha*.

Elateridae.

This family has received somewhat piecemeal attention from Australian authors, Elston alone venturing to deal seriously with the larger groups. The chief difficulties attending its study are (1) the absence from Australia of well-named collections, (2) the sketchy descriptions of many of our species by Candèze the great specialist in the family, and (3) the slight and elusive characters that separate species and, sometimes, genera. The purchase of the Elston collection by the Australian Museum, with the helpful and industrious work of this author in putting together and translating the descriptions of our species, was the inducement to the undertaking of the present paper. The large amount of new material available here indicates the need for further revisional work in this family. My thanks are due to Mr. K. C. McKeown of the Australian Museum, Mr. Womersley of the Adelaide Museum, Mr. E. W. Salter of the Macleay Museum, Mr. Clark of the Melbourne Museum, Mr. H. Hacker of the Queensland Museum, Mr. Campbell of the Canberra Museum, as also to Messrs. F. E. Wilson, J. E. Dixon and J. C. Goudie for the loan or gift of material. I would here wish to express my appreciation of the generosity of Mr. H. W. Brown and of Mr. Gurney, of the Department of Agriculture, for their presentation of holotypes to the Australian Museum.

Lacon bullatus, n. sp.

Wide, oblong; opaque reddish-brown, with short pubescence, antennae and legs red.

Head concave, punctate, widened to the front, here rounded on each side; antennae short. *Prothorax* subquadrate, length and breadth subequal, convex, scarcely gibbous; apex emarginate, front angles wide; sides nearly straight for the greater part, rather abruptly narrowed in front, sinuately widened at the posterior angles, lateral border coarsely crenulate, irregularly bicarinate, the exterior carina sometimes reduced to a row of nodules, the two carinae forming the lateral outline of the truncate, divaricate hind angles; disk coarsely alveolate-punctate; an ill-defined medial depression, and, in two examples (of four), bi-impressed. *Scutellum* transversely oval. *Elytra* as wide as prothorax at base, and less than twice as long (9:5); lightly convex, very lightly enlarged behind middle; sutural region, in two examples, depressed; striate-punctate, the striae wide and deep, seriate punctures large and close; intervals flat, except near base, 1st with a single row of punctures, 2nd and 3rd with a double row of punctures

and transverse ridges, those exterior to 3rd studded with rows of rounded nodules. Underside finely punctate; prosternum with a transverse ridge, tarsal sulci absent. *Dim.* 17–20 × 7–8 mm.

Hab.—Western Australia: Lake Austin (H. W. Brown).

Four examples taken by Mr. Brown, who has generously given the type to the Australian Museum. It is characterized by its unusual size and width and the coarsely nodulose exterior elytral intervals. Holotype in the Australian Museum.

MYRMODES (?) ELONGATUS, n. sp.

Elongate; subparallel; above, beneath and appendages brownish-red, sparsely pilose.

Head quadrate, somewhat rounded in front, briefly narrowed at hind angles, coarsely setose-punctate; antennae short, segment 1 very large, twice as long as wide, 2–3 short and oval, 4–8 bluntly dentate, 9–10 oval, 11 elongate-oval, narrower than 10. *Prothorax* convex, as wide as long (4½ mm.), widest at apical third, apex arcuate, front angles defined but wide, base subarcuate, sides entire, widely sinuate behind, posterior angles acute, obliquely pointing outwards, without carinae, the discal sculpture continuous to margins, without lateral sulcus; rather coarsely punctate in middle, more finely at sides and base. *Scutellum* large, oval. *Elytra* closely adapted to, but wider than, prothorax, shoulders obliquely truncate, sides subparallel; striate-punctate, with large square punctures in deep, clear-cut striae; intervals flat, closely punctate towards base, elsewhere with transverse, sometimes undulate, rugae, with recumbent pile near sides and apex. *Prosternum* coarsely and closely punctate, without sign of tarsal sulci; the rest of underside densely covered with small punctures: tarsi rather slender, clothed beneath with tufts of hair, post tarsi nearly as long as tibiae; segment 1 as long as 2–3 together, 2, 3, 4 successively shorter. *Dim.* 13–15 × 4½ mm.

Hab.—Queensland: Clermont (Peak Downs) (Dr. K. K. Spence).

Three examples given me by their captor can only be referred to *Trieres* or *Myrmodes*, to the former of which it is similar, so far as may be judged by the figure in the Genera Insectorum, but the narrow tarsi forbid its inclusion here. While differing from the monotypic *M. akidiformis* Cand. in its elongate elytra, it may provisionally be placed here. Holotype in the Australian Museum.

GLYPHEUS CRUCIGER, n. sp.

Elongate, oblong. Head, metasternum, abdomen, and elytral markings black, clypeus, prothorax (above and beneath), legs and ground colour of elytra orange-red; elytra bearing a postmedial cross, with diamond-shaped widening at suture, the seriate punctures and the apex, also antennae, black.

Head with usual concave clypeus and narrow border; antennae sublinear, extending slightly beyond base of prothorax; basal segments yellow. *Prothorax* subquadrate, apex arcuate, the acute anterior angles embracing the head to the eyes; sides feebly, arcuately, widening from the apex, sinuate before the long, divaricate hind angles; these with a strong, central carina. Disk very nitid, almost impunctate; a few white hairs at side. *Elytra* as wide as prothorax across the hind angles and more than twice as long; striate-punctate, the round strial punctures emphasized by dark colour; intervals convex and impunctate. *Dim.* 7–8 × 2·2 mm.

Hab.—New South Wales: Dorrigo (W. Heron).

Three examples, alike in colour, differ slightly in size. One example sent to Mons. E. Fleutiaux, others given, some time back, to Mr. A. M. Lea. It differs

clearly in pattern from recorded species while approaching *G. alpinus* Blkb. in size. Holotype presented to the Australian Museum.

GLYPHEUS MILITARIS, n. sp.

Elongate, oblong. Head, underside (except prosternum), antennae and legs (including tarsi) black; prothorax above and below sanguineous, with apical border and hind angles black; elytra black with the following markings sanguineous: an arcuate patch at each side on basal third, covering 3rd and 4th intervals, widened and produced to sides, this narrowly connected with wide preapical fascia, interrupted at the suture. Whole upper surface with long, upright, black hairs. Underside glabrous, sparsely and minutely punctate.

Head less rounded in front than usual, with well-raised border and excavate within; antennae short, segment 3 slightly longer than the rest, 4–10 subequal. *Prothorax* feebly widened behind middle, scarcely sinuate anteriorly, front angles rounded off, sides more strongly sinuate before the long, acute, strongly divaricate and carinate hind angles; disk with fine, sparse setae and long, upright hairs at sides; a fine medial sulcus traceable for the greater part, except near apex. *Elytra* about as wide as prothorax, sides nearly straight, lightly rounded at apex; striate-punctate, the seriate punctures large, black, intervals nearly flat except at base, impunctate save for setae towards margins bearing long upright hairs. *Dim.* 12 × 5 (+) mm.

Hab.—New South Wales: Lithgow district (H. E. F. Bracey).

A unique example is a striking species of a similar colour to *G. sanguineus* Elst., but differs in its red pronotum with black hind angles, different elytral pattern, narrower form and finer sculpture, especially of underside. In some respects it must be near *G. decoratus* Cand., a species with black prothorax and different elytral pattern. Holotype in the Australian Museum (K.58776).

A second example in the S. Australian Museum, taken by the late A. M. Lea, at Wilmot, Tasmania, is probably the other sex. It is smaller (10 × 3 mm.) with the lateral red patch smaller and disconnected from the preapical fascia, but is otherwise like the Lithgow insect. There are many instances of this faunal distribution (Tasmania and alpine New South Wales).

PSEUDAEOLUS[3] BIMACULATUS, n. sp.

Opaque black above and beneath, including appendages; hind angles of prothorax, tarsi, two ill-defined plagia on apical third of elytra, and the apical regions, vaguely, red.

Head rounded in front, strongly pubescent; antennae, with segment 1 long and curved, 2 and 3 small, equal, 4 longer than 5, 5–10 equal, subtriangular, 11 lineate oval. *Prothorax* sparsely pubescent, subcylindric, lightly narrowed in front and subsinuate behind, hind angles directed slightly outward, bicarinate. *Elytra* of same width as prothorax, apices diverging, each truncate; striate-punctate, the striae fine and clearly cut, the punctures scarcely discernible, intervals flat and silky, pubescent at sides and apex. *Dim.* 7–8 × 2 (+) mm.

Hab.—New South Wales: Rockley (H. J. Carter); Queensland: Cairns (H. W. Brown).

Four examples, two from each locality, differ from *Ae. australis* Cand. and *Ae. waggae* Cand. in the non-fasciate elytra. If considered only as a variety of *P. australis* Cand. it deserves a name. Holotype in the Australian Museum.

[3] Candèze considered that the Australian species of *Aeolus* should be placed under a separate subgenus *Pseudaeolus* (Cat. Elat., 1891, p. 77).

N.B.—Ae. waggae Cand. is stated to differ from *Ae. australis* Cand. in having the hind angles unicarinate. Examples from the Bogan River correspond with description, and are smaller, paler and more pubescent than examples determined as *Ae. australis* (4 examples from Mundaring, W.A. (Carter), 4 from Cue, W.A. (H. W. Brown)); Candèze's locality is Sydney. The species seem to have a wide distribution.

PSEUDAEOLUS ZIG-ZAG, n. sp.

Opaque, castaneous, mottled with black; head black, pronotum with medial and apical regions black; elytra castaneous with ill defined postscutellary mark, a zig-zag fascia at apical third and the apex black; underside subfuscous red, abdomen darker; antennae, palpi and legs testaceous. A short, pale, pubescence, thickest on the elytra.

Head: clypeus rounded, frontal sculpture obscured by pubescence, antennae, segment 1 stout, 2 shorter than 3, 3 than 4, 4 longer than 5, 8–11 wanting. *Prothorax* longer than wide, laterally convex, sides very lightly converging to the front, feebly sinuate behind, hind angles scarcely divergent, unicarinate, disk without medial sulcus. *Scutellum* elongate-ovate. *Elytra* elongate-ovate, as wide as prothorax and nearly twice as long; striate-punctate, the striae fine, and, except near base and sides, obscured by the dense pubescence, as also the dark markings, intervals flat. *Dim.* 7 × 2 mm.

Hab.—N. Queensland: Cairns.

A single example in the Elston Collection is clearly distinct from recorded species. Holotype in the Australian Museum. I find a second example amongst some unlabelled Elateridae—probably from Queensland.

PSEUDAEOLUS VAGEFASCIATUS, n. sp.

Elongate, parallel; upper surface varicoloured, with varied amount of red, subopaque, with short, pale pubescence; in general head and prothorax dark brown, the hind angles and basal area of the latter red, the elytra chiefly dark, with ill-defined postmedial fascia and the apex red. Underside castaneous, legs and antennae yellow.

Head minutely, densely punctate; clypeus rounded, antennae extending well beyond the prothorax in ♂, scarcely beyond the base of prothorax in the ♀, segment 1 curved, 2 and 3 short, 3 longer than 2, 4–7 subconic, 8–11 successively narrowed, 4–10 subequal in length, 11 lineate. *Prothorax* longer than wide (4 × 3 mm.), lightly convex; apex arcuate, front angles rounded off, sides nearly straight, hind angles well developed, lightly divaricate, with a long carina parallel to and near the external border. *Elytra* of same width as prothorax and twice as long; sides parallel for the greater part; finely striate-punctate, the punctures more evident in external half of elytra, intervals flat, finely transversely striolate, apices subtruncate. Underside densely, minutely punctate. *Dim.* 10–12 × 3 mm.

Hab.—New South Wales: Comboyne (H. J. Carter); Kurrajong and Epping (Dr. K. K. Spence); N.S.W. (H. W. Brown).

One ♂, 3 ♀ before me, the ♂ with longer antennae and the red colour more extended over the upper surface. It is the largest species of the genus recorded. Holotype presented to the Australian Museum.

An examination of the types in the Macleay Museum shows the following synonymy:

Melanoxanthus (*Cardiophorus*) *froggatti* Macl. ♂ = *M.* (*Cardiophorus*) *fasciolatus* Macl. ♀.—I think these are the sexes of the same species. I have noted this sexual colour difference in other species.

Elatichrosis (*Chrosis*) *angusticollis* Blkb. = *E. trisulcata* Er.—Blackburn's description exactly fits Victorian examples that cannot be separated from Erichson's species.

MELANOXANTHUS.

This genus appears to be common in tropical Australia, though undetermined in our collections. In form subconic or navicular, elytra short in proportion to the prothorax, the hind angles of the latter strongly developed, divaricate and carinate, the sculpture often coarse, the antennae serrate, sometimes widely so, often ornately coloured, they are strikingly different from the Cardiophorinae. In *Mem. Soc. Roy. Liége*, 1882, Candèze states "la distinction entre les deux genres" (*Megapenthes* et *Melanoxanthus*) "est devenue absolument impossible". Yet I prefer to separate the Australian species of these genera known to me by the different antennae. As with other of our northern species of Coleoptera, many occur on both sides of Torres Straits. Thus I have identified *Melanoxanthus angularis* Cand., *M. ruficollis* Cand. and (?) *M. abdominalis* Cand., described from New Guinea, amongst Elateridae labelled as from Cairns district by the late F. P. Dodd. The following are, I believe, undescribed.

MELANOXANTHUS JUCUNDUS, n. sp. Pl. viii, fig. 2.

Head, antennae, underside and legs black, prothorax and tarsi red; elytra black, with two white rectangular markings, forming a medial fascia, interrupted at sides and suture, each sloping backward from suture to sides: sparsely pubescent.

Head short, punctate, antennae not reaching base of prothorax, rather wide, segment 1 tumid, 2, 3 small, 4–10 triangularly dentate, 5–10 subequal, 4 smaller than 5, 11 oval. *Prothorax* about as long as wide, arcuately narrowed in front, subsinuately widened at the acute, carinate, posterior angles. Disk moderately convex, coarsely and evenly alveolate-punctate, short bristly hair showing laterally. *Scutellum* large, triangular. *Elytra* subconic, navicular, at base as wide as prothorax at hind angles, thence narrowing to apex, here not quite covering abdomen; striate-punctate, striae close, seriate punctures large and close, intervals asperate and nodulose on basal half. Prosternum coarsely, metasternum more finely punctate. Hind coxae angulately widened within, narrowed externally. *Dim.* 4 × 1½ mm.

Hab.—North Queensland: Townsville (Elston Coll.), Port Denison (Macleay Museum), Wide Bay (Australian Mus.).

Four examples examined of this pretty little species. Holotype in the Australian Museum.

VAR.—Two of the examples have the apical area of the pronotum black.

MELANOXANTHUS BIARCTUS, n. sp. Pl. viii, fig. 4.

Of the same size and form as *H. jucundus*. Nitid black with dark pubescence, elytra with two elongate-oval markings testaceous extending from behind the shoulders to the apical fourth, near, but not touching, sides; legs black, tarsi red, antennae with reddish tinge.

Head strongly punctate, clypeus rounded, antennae very similar to that of *jucundus*, but 4–10 less widely dentate, more closely adjusted, 11 wider. *Prothorax*: length and breadth subequal, arcuately narrowed in front, hind angles long, acute, slightly divergent and carinate, sides feebly widened near middle; disk moderately convex, with large, round punctures, alveolate in middle, separate

towards sides, a linear depression behind each hind angle, basal declivity steep. *Elytra* at base as wide as prothorax at hind angles, thence navicular to apex, not quite covering abdomen; striate-punctate, with series of large round punctures between narrowly raised intervals, underside with dense silvery pubescence. *Dim.* 3½–4 × 1½ mm.

Hab.—North Queensland: Cairns (Macleay Museum); Coen R. (C. York) (Hacker).

Five examples; two on a card include the holotype, a third in the South Australian Museum, and two in the National Museum, Melbourne, from Cape York.

Melanoxanthus columbinus, n. sp. Pl. viii, fig. 3.

Narrowly ovoid, with short, rather thick pubescence. Head black, prothorax above and below red, with a black patch at apex, narrowing to a point near the middle; elytra nitid black, with two curved yellow maculae at middle, formed like the wings of a bird at rest; these nearly meeting at suture and extending along, but not reaching, sides for about one-third of their length; underside (except prosternum) black, legs reddish, antennae dark red.

Head: clypeus rounded, forehead coarsely punctate, antennae not reaching base of prothorax, wide, very much as in *M. biarctus*, 4–10 strongly dentate, 11 oval. *Prothorax* rather wider than long, arcuately narrowed in front, sides nowhere widened, hind angles lightly divergent, bi-carinate and acute, embracing the shoulders of elytra; disk moderately convex, closely, not contiguously, punctate, the punctures large, round and umbilicate. *Scutellum* large, triangular. *Elytra* slightly narrower than prothorax at the hind angles, thence converging to apex; striate-punctate, the striae wide, intervals flat (except near base), seriate punctures large and close with rugose edges, giving the basal half an asperate, though nitid surface; underside rather densely clad with silvery pubescence. *Dim.* 4½ × 1½ mm.

Hab.—North Queensland: Cairns. (Macleay Museum.)

Another interesting novelty from this rich collection. The elytral pattern suggests a dove's wing. Hence the name. Two examples on a card include the holotype, marked with an arrow. A third is in the South Australian Museum and a fourth, from Wyreema, Q., is in the Queensland Museum. Examples in the South Australian Museum from Cairns differ in having the prothorax wholly black. These are ♀ and, like *froggatti* Macl., show a sexual coloration.

Melanoxanthus flavosignatus, n. sp. Pl. viii, fig. 1.

Ovate; nitid black, hind angles of prothorax and wide medial, interrupted fascia on elytra yellow, legs reddish, antennae reddish-brown.

Head short, punctate and pubescent, antennae short, 4–10 strongly dentate. *Prothorax* gently narrowed from base to apex, a little sinuate before the extreme point of hind angles—these lightly divaricate and embracing elytral shoulders. Disk moderately convex, densely covered with subcontiguous, umbilicate punctures and with short, bristly dark hairs. *Scutellum* large, oval. *Elytra* slightly narrower than prothorax at hind angles, gently narrowed from base to apex, the wide yellow fascia extending to the sutural interval, not quite reaching sides; striate-punctate, strial punctures small, intervals flat, except on basal half—here strongly asperate with fine nodules and transverse wrinkles. *Dim.* 4 (vix) × 1½ mm.

Hab.—Queensland: Wide Bay (Macleay Museum.) Holotype in the Macleay Museum.

Var.—Two examples in the Australian Museum, from the same locality, are clearly conspecific, but have the hind angles of the prothorax black.

MELANOXANTHUS INSOLITUS, n. sp. Pl. viii, fig. 6.

♂. Elongate-oval. Head black, prothorax red, elytra black with yellow markings as follows: a small round spot on each side at extreme base, an arcuate diagonal macula on each, extending from behind shoulder to the 2nd elytral interval, forming an interrupted fascia, a straight subrectangular macula at apical third, forming a second interrupted fascia; prosternum red, strongly pubescent, rest of underside black.

Head rather longer, but of similar structure to that of *H. jucundus*, antennae 4–10 dentate, 11 oval. *Prothorax* arcuately narrowed in front, sides nearly straight on basal two-thirds, posterior angles feebly divergent, acute and strongly carinate; disk rather closely punctate, the punctures much smaller than in the other species described here, sparsely clad at sides with pale pubescence. *Scutellum* large, oval. *Elytra* at base as wide as prothorax and more than twice as long, sides nearly straight, more widely rounded at apex than usual; striate-punctate, striae narrow, seriate punctures moderately large and very distinct, intervals—especially on dark areas—cancellately divided by transverse wrinkles, the basal area asperate and subnodulose.

♀. Of two examples on a card, what I take to be the other sex has the pronotum dark brown, with the hind angles red, the yellow subhumeral mark connected with the basal spot, and the two subapical marks oval. There is little doubt of the two being conspecific. *Dim.* 5 × 2 mm.

Hab.—Cape York. (Macleay and the Queensland Museums.)

Less conical in form than usual, otherwise typical of the genus. A dual carina at sides of pronotum—somewhat as in *Cisseis* (Buprestidae). Holotype and allotype in the Macleay Museum.

MELANOXANTHUS LATIVITTIS, n. sp. Pl. viii, fig. 7.

Elongate, subconic; very sparsely pubescent. Head, prothorax and underside dull brownish-black, the prothorax with apical band and hind angles, also antennae and legs, red; elytra with base brightly luteous, a wide vitta extending throughout, gradually narrowing to apex, yellow, leaving the suture narrowly, the sides more widely, brown.

Head deeply enclosed in prothorax, antennae with segments 2 and 3 small, 4–10 moderately serrate. *Prothorax* gently narrowed from base to apex, sides feebly sinuate behind, hind angles unicarinate, closely adapted to elytral humeri, disk rather finely alveolate-punctate. *Elytra* elongate, subconic, more than thrice as long as prothorax; striate-punctate, strial punctures rather small, intervals lightly convex, except near base; those on dark areas rugosely wrinkled. *Underside* subglabrous, finely and closely punctate, *epipleurae* with larger punctures. *Dim.* 4·5 × 1 (+) mm.

Hab.—Queensland: Wide Bay.

Two examples in the Macleay Museum show a species more elongate and narrow than usual. Type series in the Macleay Museum.

MELANOXANTHUS SEMIRUBER, n. sp. Pl. viii, fig. 5.

Subconic. Head and antennae, prothorax and underside dull black, the hind angles of prothorax, basal segments of antennae and legs red, elytra with basal half chiefly red, this colour with undefined limits at base, the base, suture and apical half black; upper surface with short pubescence.

Head convex, antennae rather stout, submoniliform, 2–3 short, 8–10 tending to triangular, 11 oval. *Prothorax* slightly longer than wide, sides nearly straight,

lightly narrowed in front, hind angles acute, slightly divaricate and strongly carinate; disk uniformly alveolate-punctate. *Scutellum* large, oval. *Elytra* of same width as prothorax and about twice as long, sides narrowed from base to apex; striate-punctate, strial punctures fairly large and close, setigerous; apical half finely rugose. *Dim.* $4\frac{1}{2} \times 1\frac{1}{2}$ mm.

Hab.—North Queensland: Cairns (Macleay and the South Australian Museums).

Of like form to *H. biarctus* and *H. flavosignatus*. Holotype in the Macleay Museum.

MELANOXANTHUS RUFONIGER, n. sp. Pl. viii, fig. 11.

♂. Base of head, antennae (except basal segments), a wide median vitta on pronotum, apical three-quarters of elytra subnitid black, rest of surface, above and below, red or yellow; dull red on head and pronotum, base of elytra, underside and legs pale yellow, with rather dense pubescence at sides of pronotum and elytra.

Head closely punctate, antennae not quite reaching base of prothorax, segments rather widely triangular to scutate. *Prothorax*: sides converging from base to apex, hind angles acute, unicarinate, and feebly divaricate, closely embracing shoulders of elytra; disk closely punctate, the punctures tending to coalesce in lines, becoming finer towards sides. *Elytra* twice as long as prothorax, cuneiform; clearly striate-punctate, intervals nearly flat and finely granulate.

♀. Whole of head and greater part of elytra orange-red, the latter paler near base, the sides only black, elsewhere very faintly clouded.

Dim. ♂, $3\frac{3}{4}$ mm.; ♀, 4 mm. long.

Hab.—Queensland: Tambourine Mountain (A. M. Lea).

A pair, the sexes, in the South Australian Museum, give evidence of the thorough field-work of my old friend. The name *vitticollis* is barred by the triple use of this name in the genus. The elytra are evidently liable to colour variation. Holotype in the South Australian Museum.

Australian species of Melanoxanthus *known to me.*

1.	Prothorax black, or chiefly so	2
	Prothorax red, or chiefly so	8
	Prothorax trivittate, medial area black, sides yellow	*rufoniger*, n. sp.
2.	Prothorax wholly black	3
	Prothorax with hind angles red or yellow	5
3.	Elytral markings longitudinal	*biarctus*, n. sp.
	Elytral markings more or less fasciate	4
4.	Fascia narrow	*fasciolatus* Macl.; ? ♀ *froggatti* Macl.
	Fascia alatiform	♀ *columbinus*, n. sp.
5.	Elytra black	*angularis* Cand.
	Elytra variegated	6
6.	Elytral markings more or less fasciate	*flavosignatus*, n. sp.
	Elytral markings longitudinal	7
7.	Apex of prothorax red	*lativittis*, n. sp.
	Apex of prothorax black	*semiruber*, n. sp.
8.	Prothorax wholly red	9
	Prothorax red with black markings	11
9.	Elytra with one pair of pale maculae	10
	Elytra with two pairs of pale maculae	*insolitus*, n. sp.
10.	Pale maculae at right angles to suture	*froggatti* Macl.
	Pale maculae sloping backwards from suture	*jucundus*, n. sp.
11.	Prothorax with black apical patch	♂ *columbinus*, n. sp.
	Prothorax with hind angles black	*ruficollis* Cand.

HYPNOIDUS FLAVOPICTUS, n. sp. Pl. viii, fig. 9.

Obovate; nitid black with silvery pubescence, hind angles of prothorax, antennae, tibiae, tarsi and elytral markings pale yellow, the last as follows: basal mark extending and widened laterally on basal fourth, medial oval mark on each side of suture and a wide, irregular, preapical fascia, produced along suture to apex.

Head closely pubescent, antennae mutilated, the few remaining segments subtriangular. *Prothorax* convex, ovate, widest near middle, more narrowed behind than in front, subsinuate near hind angles, these non-carinate, acute, triangular, directed slightly outward; disk mirror-like and minutely punctate, a short basal sulcus, bordered by carina, parallel to sides. *Elytra* ovate, wider than prothorax; striate-punctate, the strial punctures large, intervals roundly convex throughout with light transverse wrinkles. *Underside* and *femora* black, nitid. *Dim.* 4–5 × 1½ mm.

Hab.—New South Wales (Macleay Museum).

Two examples with incomplete antennae and legs are very distinct from described species. Type series on card in the Macleay Museum.

H. (*Cryptohypnus*) *dimidiatus* Macl. = *H.* (*Cryptohypnus*) *semifasciatus* Macl.—An examination of the types makes this evident: a slight colour difference only between the types.

Subfamily CARDIOPHORINAE.

Three generic names, *Cardiophorus*, *Paracardiophorus* and *Horistonotus*, have been applied to Australian species. Of these, *Horistonotus* appears to be a purely American genus, separated from *Paracardiophorus* by the narrow front of head and the more strongly developed hind angles of the prothorax and generally flatter form. *Cardiophorus* is limited, fide Schwartz (*Gen. Ins.*, p. 46*b*; also *Deutsch. Ent. Zeit.*, 1895, p. 40), to species having the lateral carina either absent, or, when present, only on the underside.

I have examined examples of *C. cinereus* Hbst. (Europe), *C. ophidius* Cand. (India) and *C. ruficollis* L. (Europe), kindly sent from the British Museum. The Australian species standing under *Cardiophorus* in the Junk catalogue are clearly not congeneric with these; in no instance is the lateral carina either absent or bent downward from the hind angles, as in the above three. Omitting the four species recorded from New Guinea, Celebes and Ternate as unknown to me, five Australian species remain in this list as follows:

fasciolatus Macl. ♀ and *froggatti* Macl. ♂ are, I consider, the sexes of the same species, differing only in the colour of the prothorax. They belong to the genus *Melanoxanthus*.

macleayi Schw. = *quadrimaculatus* Macl. is a typical *Paracardiophorus*, the lateral carina being continuous along the basal two-thirds of margin.

tumidithorax Schw. (*tumidicollis* Schw.)—Unknown to me. The description strongly suggests a *Paracardiophorus*, structurally similar to *C. venustus* Cand.

venustus Cand.—A common species in South and Western Australia, of which many examples are before me. The lateral carina is very short, extending little beyond the basal fourth of the margin; here abruptly terminated, not bent to the underside. According to the tabulation of Schwartz, this short carina would bring it under *Horistonotus*. But the structure of head, prothorax and elytra is that of a typical *Paracardiophorus*, congeneric with *P. australis* Cand. and others. Moreover, the distinction given by Schwartz for *Horistonotus*—"Die seiten des Prothorax sind höchstens bis zu Mitte gerandet"—fails in two species sent me

for examination, *H. exoletus* Er. (Mexico) and *H. flavipes* Champ. (Costa Rica), in both of which the lateral carina extends along two-thirds of the margin.

Rather than give new generic names to the few species having this short lateral carina, it seems advisable to include all the known Australian Cardiophorinae under the single genus *Paracardiophorus*. Further, in the tabulation of Schwartz this genus is thus characterized: "Die Seiten des Prothorax sind gewöhnlich bis zur den Vorderecken gerandet"; but in no single instance, of the hundreds examined, have I seen this lateral border continued to the front angle, though it is generally traceable beyond the middle.

A single species of *Cardiotarsus*, described below, adds this genus to the Australian Elaterid fauna.

Paracardiophorus attenuatus Elst.—This species is doubtfully fitted to its present position. The lightly convex, little widened, prothorax, with divaricate, rather wide hind angles, prosternal sutures well developed, hind coxae not produced laterally, antennae with wide, subdentate, segments, present features inconsistent with its status in the subfamily.

The greater number of the genus are found under the bark of Eucalyptus trees.

Horistonotus bicolor Rainb. (*Rec. Aust. Mus.*, 1904) has been omitted by Schenkling from the Junk Catalogue. An examination of the type shows it to be a *Paracardiophorus*—one of the common varieties of *P. australis* Cand. in which the pale maculae are connected to form vittae.

P. despectus Cand. = *P. antennalis* Schw.?—This synonymy is extremely probable. The descriptions are almost identical. The query is a concession to my inability to compare the types.

I have omitted certain of the more or less concolorous species from my table, since it has been difficult to identify these with certainty; though most have been 'hypothetically' labelled. A few notes on these may be helpful.

Of the four black species, *compactus* Cand., *consobrinus* Cand., *dissimilis* Schw., and *tumidithorax* Schw., *dissimilis* is readily distinguished by its black legs. It is common in Western Australia, and, as noted by the author, the ♀ has, sometimes, a red shoulder-mark. As this colour variation may apply to others, it is possible that the three *lenis* Cand., *moseri* Schw., and *xanthomus* Cand. may be forms of concolorous species. Careful field notes only can establish this.

P. tumidithorax Schw. should be easily determined by its large size (10 mm. long), and opaque surface. I have not seen it.

P. compactus Cand. has been hypothetically separated from *consobrinus* Cand. by locality (Victoria and Queensland respectively) and the dark antennae of the former. My examples of (?) *compactus* are from Beaumaris, Vict., and Mulwala (Murray R.); of (?) *consobrinus* from Cairns, Stewart R. (N.Q.), Cape York and Brisbane.

P. lenis Cand. is said to be distinguished from *xanthomus* Cand. by basal spot and apex red. My examples of the former are from Benalla, and of the latter from Wattle Glen, Heathcote Junction and L. Hattah, Vict.

P. moseri Schw. I think I know by its larger shoulder-spot and dark antennae. Examples from Frankston and other Victorian localities.

Six species are described as brown. Of these *despectus* Cand. (= *antennalis* Schw.) has a wide distribution in New South Wales and Victoria and beyond. My examples are from Sydney district, Jenolan, Morgan (S.A.) and one example (det. by M. Fleutiaux) from Queensland.

P. consputus Cand., from Victoria, must be very close to *vagus* Schw. from New South Wales. Examples (?) of the former are from L. Hattah, Wood Wood, Vict., and of the latter from Illawarra and Cotter R. (N.S.W.).

P. humilis Er. and *jugulus* Elst. are included in my table.

Of the five species described as castaneous, red or yellow, *mjöbergi* Elst. is tabulated below; *victoriensis* Blckb. and *flavipennis* Cand. (a minute species from W.A.) are unknown to me; *pallidipennis* Cand. is determined with a ? from Cheltenham (Vict.), Albury and Mulwala, and *longicornis* Cand. from Kuranda and Cairns. The 14 other recorded species, together with 19 new species, are tabulated below.

N.B.—Since writing the above, I have received from M. Fleutiaux some notes on examples sent, as identified with a (?) by me. Of *compactus* Cand., *consobrinus* Cand., *despectus* Cand. and *pallidipennis* Cand., he writes: "Ils paraissent appartenir à la même espèce! Mais laquelle?" Of each Schwartz species, *vagus*, *moseri* and *longicornis*, he writes: "M'est inconnu"! which explains my difficulties in this group.

Table of Australian species of Paracardiophorus.

Section A.—Species with elytra concolorous or with defined areas of dark and pale colours.

1.	Elytra unicolorous	2
	Elytra bicolorous	4
2.	Prothorax red, head and elytra black	*bicolor* Cand.
	Upper surface testaceous	*mjöbergi* Elst.
	Upper surface fuscous or black	3
3.	Black, or nearly so, post angles of prothorax red	*humilis* Er.
	Brown, anterior angles of prothorax red	*jugulus* Elst.
4.	Elytra black or brown, with defined red or yellow areas	5
	Elytra variegated, colours vaguely defined	8
5.	Size normal, 5-6½ mm. long	6
	Size small, 4-4½ mm. long	7
6.	Basal half of elytra red or yellow	*dimidiatus* Schw.
	Basal two-thirds of elytra yellow, with black humeral spot	*divisus* Cand.
	Base, with lateral extension, red or yellow	*elisus* Cand.
7.	Brown, shoulder spot paler	*octavus* Cand.
	Black, shoulder spot red	*eucalypti* Blkb.
8.	Prothorax concolorous (castaneous)	9
	Prothorax variegated	*variegatus* Schw.
9.	Elytra with pale and dark areas ill defined	10
	Elytra red, the dark areas more or less fasciate	11
10.	Elytra testaceous, variably suffused with fuscous	*litoralis*, n. sp.
	Elytra nitid castaneous, suture and variable area black	*cooki*, n. sp.
	Elytra dull red, apical half variously infuscate	*varians*, n. sp.
11.	Elytral fascia well defined, underside red	*subfasciatus*, n. sp.
	Elytral fascia vaguely defined, underside black	*nigrosuffusus*, n. sp.

Section B.—Elytra with markings in a symmetrical pattern.

1.	Elytral colours longitudinally arranged	2
	Elytra maculate	4
2.	Prothorax black, post angles red, elytra with black and pale vittae	*vittipennis*, n. sp.
	Prothorax variegated	3
3.	Elytra with orange shoulder-spot, extended on sides, and disconnected red streaks	*rufopictus*, n. sp.
	Elytra with dark and pale yellow vittae	*alternatus*, n. sp.
4.	Elytra yellow, with 4 spots and apex black	*atronotatus*, n. sp.
	Elytra with 4 pale spots on dark ground	5
	Elytra otherwise	14
5.	Prothorax red	*venustus* Cand.
	Prothorax black	6

6. Size 5-6 mm. long 7
Size 3-4 mm. long 11
7. Maculae yellow 8
Maculae orange or red 10
8. Hinder pair of maculae round, basal oblong ..... *fulvosignatus* Cand.
Hinder pair of maculae subfasciate 9
9. Basal maculae oblique from shoulder ..... *australis* Cand.
Basal maculae forming an elongate S ..... *hamatus* Cand.
10. Hinder pair of maculae oval ..... *dulcis*, n. sp.
Hinder pair of maculae elongate and wide ..... *occidentalis*, n. sp.
11. Maculae yellow 12
Maculae orange or red 13
12. Basal maculae lunate, hinder fasciate ..... *minimus* Cand.
Maculae subdiagonal, cruciform ..... *subcruciatus*, n. sp.
13. Basal maculae large and round, hinder oblong ..... *macleayi* Schw.
Elytral maculae small and round ..... *quadristellatus*, n. sp.
14. Size 4½-5½ mm. long 15
Size 3 mm. long. Elytra with 4 maculae and postmedial fascia .. *carissimus*, n. sp.
15. Elytra with basal area widely red 16
Elytra not so 17
16. Elytral basal half red, apical black with white fascia ..... *amabilis*, n. sp.
Elytral basal third red, apical two-thirds black with two yellow spots ..... *stellatus*, n. sp.
17. Prothorax black, elytra with six maculae ..... *sexnotatus*, n. sp.
Prothorax with 2 orange spots, elytra with 6 maculae ..... *octosignatus*, n. sp.

The new species are described below.

PARACARDIOPHORUS ALTERNATUS, n. sp. Pl. ix, fig. 10.

Nitid red, head and prothorax a dark castaneous, the latter mottled with pale red; elytra with alternate intervals dark and pale yellow, appendages red; underside densely pubescent with pale, recumbent hair.

Head strongly punctate and finely pubescent, antennae extending well beyond base of prothorax, rather stout, segments 2 and 3 short, 4–10 elongate conic. *Prothorax* tumid, moderately widened in front of middle, sinuate before hind angles; lateral border abruptly terminated before half-way; disk finely and rather closely punctate, a short sulcus near hind angles. *Scutellum* cordate. *Elytra* wider than prothorax at base, sides nearly straight on basal half, thence lightly narrowed behind; striate-punctate, the striae deep, strial punctures indistinct; intervals rather strongly convex and punctate, pubescence thick at sides and apex. *Dim.* 4½ × 1⅓ mm.

Hab.—Western Australia: Geraldton (J. Clark).

A unique example in the Elston Collection is unlike any recorded species. Holotype in the Australian Museum.

PARACARDIOPHORUS AMABILIS, n. sp. Pl. ix, fig. 6.

Head, prothorax, abdomen and parts of elytra nitid black, hind angles of prothorax rufescent; elytra with basal half red, apical half black, except for a transverse oval macula white (or nearly so) forming an incomplete fascia at middle of black area; metasternum and basal margin of prosternum red; hind femora dark, legs otherwise red; antennae with basal segments dark red, the rest more or less infuscate.

Head lightly convex, rather densely clad with silvery hair; antennae slender, segments 3–10 subequal, lineate-obconic. *Prothorax* tumid, widely rounded, widest in front of middle, sides contracting roundly in front, a little sinuate before the well defined, dentate hind angles, the narrow raised border evident only at posterior

fourth; disk closely, unevenly punctate, the larger punctures at base and sides, a feebly depressed medial line near base. *Elytra* lightly enlarged at shoulders, subparallel for the greater part; striate-punctate, with large punctures set in deeply impressed striae, intervals convex and clearly punctate. Underside with dense, grey, recumbent hair. *Dim.* $5\frac{1}{2} \times 2$ mm.

Hab.—N.W. Victoria: Sea Lake (J. C. Goudie), Lake Hattah (J. E. Dixon). S. Australia: Port Lincoln (Blackburn).

Six examples examined. It and *C. venustus* Cand. are the prettiest of the Australian species. I am indebted to Mr. Dixon for one example; two others, including the holotype, are in the Elston Collection in the Australian Museum. Three more are in the South Australian Museum.

PARACARDIOPHORUS ASSIMILIS, n. sp. Pl. ix, fig. 3.

Nitid black; elytra with four yellow maculae: two narrow, elongate, from base along the 4th interval, rounded and enlarged at base; two small, round spots at apical third; antennae and femora black, tarsi and basal segments of antennae yellow, tibiae variably suffused with yellow; head strongly, elsewhere sparsely, pubescent.

Head punctate, pubescent, antennae long and slender, extending beyond base of prothorax. *Prothorax* convex, ovate, well rounded anteriorly, widest in front of middle, sinuately and strongly narrowed behind, narrow lateral border terminated abruptly about apical fourth; disk finely duplo-punctate, hind angles small and subtruncate. *Scutellum* large, triangular. *Elytra* narrowly ovate, widest behind middle; striate-punctate, intervals convex near base, elsewhere nearly flat and transversely wrinkled; underside lightly pubescent, minutely punctate. *Dim.* 5 × 1·5 mm.

Hab.—Australian Capital Territory: Black Mountain (A. Tonnoir and F. Graham); New South Wales: Tallong (F. H. Taylor); Queensland: Bribie Island (A. M. Lea, H. Hacker).

Nine examples before me have been confused with *C. australis* Cand., but the following comparison will distinguish them:

australis Cand.	*assimilis*, n. sp.
Elytral marks: Two wide, oblique from behind shoulders; two postmedial, subfasciate.	Two narrow, longitudinal, from mid-base, forming round, luteous spot at base; two postmedial small and round.
Tibiae yellow	in general dark above except at knees.

In form *assimilis* is more biovate, with more strongly punctate prothorax. Holotype in the Canberra Museum.

PARACARDIOPHORUS ATRONOTATUS, n. sp. Pl. viii, fig. 10.

Biovate; head, prothorax (except hind angles, yellow), underside and elytral markings black; elytra yellow, with two small, elongate spots near base, on the 4th interval, two oval maculae at middle of sides and the apical fourth black; antennae black with the three basal segments yellow, legs yellow.

Head with pale pubescence, antennae not reaching the base of prothorax, segment 1 very tumid, 2 and 3 subequal, each shorter than 4, 4–10 subequal. *Prothorax* very nitid black, widest and well rounded in front of middle, lightly narrowed and scarcely sinuate behind; disk clearly, finely, but distinctly punctate, the punctures evenly spaced; lateral carina on basal half only. *Scutellum* cordate. *Elytra* narrowly ovate; striate-punctate, striae and punctures clearly impressed, intervals convex only near base and minutely setose. *Dim.* 4 × 1·3 mm.

Hab.—New South Wales: Craven (T. G. Sloane).

A single example was given me by my old friend. It has a distinct pattern unlike any other, while belonging to the section that includes *octavus* Cand., *macleayi* Schw., *subcruciatus* Cart. Holotype in the National Museum, Melbourne.

PARACARDIOPHORUS CARISSIMUS, n. sp. Pl. ix, fig. 2.

Narrow, elongate; head, prothorax and underside nitid brownish-black, almost glabrous, elytra reddish-brown, with testaceous pattern as follows: humeral comma-shaped mark, covering shoulders and continued laterally backward, two premedial, elongate-oval marks, and a wide, oblique, postmedial fascia, rather widely interrupted at suture, its interior hind corners connected with a sutural extension almost to apex, posterior angles of prothorax testaceous, antennae and femora dark, tibiae and tarsi red.

Head of typical form, antennae obscured by gum. *Prothorax* moderately convex, ovately widened, equally narrowed each way, slightly wider in front than behind the middle, without posterior sinuation; disk very minutely punctate and mirror-like, lateral border continued for three-quarters of length from base. *Elytra* elongate-ovate, more convex than usual, widest at middle; striate-punctate, the round punctures well defined on light areas, intervals a little convex towards base, nearly flat elsewhere. *Dim.* 3 × 1 mm.

Hab.—Western Australia: King George's Sound.

Four examples, two in the Australian Museum, badly gummed, and two in the National Museum, are amongst the most ornate and distinct of the genus and one of the smallest. Holotype in the Australian Museum.

PARACARDIOPHORUS COOKI, n. sp. Pl. viii, fig. 14.

Elongate-ovate; head and pronotum nitid castaneous, scutellum, suture and a large, variable area of elytra black; underside red, appendages testaceous.

Head pubescent, clothing little paler than surface; antennae extending to base of prothorax, segments subtriangular. *Prothorax* moderately convex, little contracted in front or behind, hind angles shortly triangular, blunted at extremity, with black margin; disk with dual system of punctures, the larger evenly spaced some distance apart, ground punctures minute and close; very lightly pubescent; lateral carina not extending half-way to front. *Scutellum* cordate, dull black. *Elytra* narrowly ovate, striate-punctate, striae well impressed, serial punctures large, regular, crenulating sides of intervals, these lightly convex and transversely wrinkled; pubescent at sides and apex; underside lightly pubescent. *Dim.* 4–5 × 1¼ mm.

Hab.—North Queensland: Endeavour River.

Three examples examined are somewhat like *P. nigrosuffusus* and some forms of *P. varians*. From the former it is separated by smaller size, different colour, especially of underside, and shorter lateral carina; from *varians* it is readily separated by its nitid and far less hirsute surface, wider prothorax and different sculpture. The name will indicate its habitat. Holotype in the South Australian Museum.

PARACARDIOPHORUS DULCIS, n. sp. Pl. ix, fig. 7.

Nitid black above and beneath, strongly pilose with silvery hair, elytra with four large orange maculae: two, longitudinal at base, of variable size, in general covering 3 intervals, two preapical; metasternal epipleurae red, 1st abdominal segment with pale spot at side, antennae and legs infuscate, the basal segment of the former and the tarsi flavous.

Head rounded, with raised border in front, antennae sublinear, extending just beyond base of prothorax; segment 1 stout, 2 shorter than 3, 3 than 4, thence subequal. *Prothorax* very tumid, arcuately narrowed on frontal half, less strongly and subsinuately behind, widest about middle, with small truncate hind angles, directed backward; the narrow lateral border quite obliterated about halfway to the front; disk rather closely punctate, the punctures larger near sides, these bearing white hairs, a short, well-marked sulcus near hind angles, parallel to sides. *Scutellum* subcordate. *Elytra* as wide as prothorax, feebly widened behind middle, striate-punctate, punctures large in well-marked striae, intervals convex and punctate-setose. Underside with dense, recumbent hair. *Dim.* 5–5½ × 1½–2 mm.

Hab.—N.W. Victoria: Lake Hattah (J. E. Dixon and C. G. Oke), Murray River (H. S. Cope); South Australia (Macleay Museum).

Six examples before me are easily distinguished from *P. australis* Cand. by the basal markings extending longitudinally from border and of orange colour (in *australis* these are oblique from shoulder and testaceous). Holotype in Australian Museum.

PARACARDIOPHORUS LITORALIS, n. sp. Pl. viii, fig. 8.

Short, bi-ovate; head and prothorax nitid reddish, varying from red to brown or nearly black; elytra testaceous, variably suffused with fuscous, underside red, legs and antennae testaceous.

Head lightly pubescent, antennae unusually long and slender, extending well beyond base of prothorax, segments linear. *Prothorax* convex, ovate, sides well narrowed in front, subsinuate behind; disk microscopically punctate, raised lateral border terminated about two-thirds of the way from base. *Scutellum* cordate. *Elytra* ovate, of same width as prothorax at base, widest near middle; striate-punctate, strial punctures large, crenulating sides of intervals, these with a single line of punctures. *Dim.* 3–4½ × 1–1½ mm.

Hab.—South Australia: Adelaide (sea-beach, A. M. Lea); Western Australia: Geraldton (J. Clark); Tasmania: Kelso (beach, A. M. Lea and A. Simson); Queensland: Brisbane (Tiegs).

Sixteen examples show a little species, variable in size and colour. The five from Tasmania show a tendency to vittate arrangement of the dark colour on elytra, but cannot otherwise be separated from those from Adelaide and Geraldton. As with *P. nigrosuffusus*, the pronotum varies in colour from pale red to brown (or black in one example). Type series in the South Australian Museum.

VAR.—An example from Brisbane, in the Queensland Museum, has the pronotum and the apex of elytra black. This form is apparently near *flavipennis* Cand., described from the Swan River; but apart from the widely separated locality, none of the long series before me tally with Candèze's description.

PARACARDIOPHORUS NIGROSUFFUSUS, n. sp. Pl. ix, fig. 12.

Oblong; subnitid red, sparsely pubescent above, brownish-black beneath, elytra with a wide, variable, ill-defined black, postmedial fascia; legs and antennae flavous.

Head feebly pubescent, antennae short and extremely slender, not extending to base of prothorax; segments linear, 2 and 3 shorter than succeeding. *Prothorax* convex, subquadrangular, length and breadth subequal, sides nearly straight, the short, blunt hind angles continuous with lateral margin, the raised border

terminated two-thirds of the distance from base; disk strongly, sparsely punctate, with short, indistinct basal sulcus. *Scutellum* subcordiform. *Elytra* wider than prothorax, narrowly oval; striate-punctate, striae deep, the strial punctures distinct, intervals wide and flat, except at base, apparently impunctate, with recumbent pale hair; underside with fine scattered punctures on sternal areas, abdomen feebly pubescent. *Dim.* 5–6 × 2 mm.

Hab.—Inland N.S.W., Victoria and South Australia, ? N.W. Aust.—Bogan River (J. Armstrong), Sea Lake (J. C. Goudie), Leigh's Creek (Blackburn Coll.).

Thirteen examples are before me that vary in size and colour. The dark colour sometimes extends to the pronotum. Two examples in the South Australian Museum from the Fortescue River, N.W.A. (W. D. Dodd), have the prothorax wholly dark brown, but may be considered as a variety of this species. Type series in Coll. Carter (presented to the Australian Museum).

PARACARDIOPHORUS OCCIDENTALIS, n. sp. Pl. ix, fig. 9.

Ovate; head, prothorax, underside and legs black, the prothorax nitid, with short pubescence, the last two opaque from the dense, recumbent, whitish pubescence; elytra black, with four red markings, two comma-shaped at shoulders, narrow at base, thickened and incurved to 3rd interval, two elongate, preapical; tarsi and basal segments of antennae red, in some examples a small red spot at anterior angles of prothorax.

Head strongly pubescent, antennae not reaching base of prothorax, segments 2 and 3 short, 4–10 narrowly subconic. *Prothorax* convex, ovate, widely rounded, strongly narrowed in front and behind, subsinuate at the latter; hind angles short, truncate and feebly divaricate, lateral border terminated at apical third, disk finely, irregularly, punctate. *Elytra* ovate, wider than prothorax at base and nearly thrice as long; striate-punctate, striae deep, intervals strongly convex on basal half, somewhat flattened on middle area, clearly punctate, also setose at sides. *Dim.* 6 × 2 (vix) mm.

Hab.—Western Australia: Warren River (W. B. Dodd).

Four examples are marked somewhat like the eastern *P. dulcis* Cart., but differ as follows: Size larger, the hinder pair of maculae elongate on intervals 6, 7, 8 (oval in *dulcis*). Holotype in South Australian Museum.

PARACARDIOPHORUS OCTOSIGNATUS, n. sp. Pl. ix, fig. 4.

Biovate; nitid black, with short silvery pubescence; upper surface with 8 orange maculae, placed as follows: one near each front angle of pronotum, six on elytra, of which two are small, basal, two oval, premedial, and two preapical, forming a fascia interrupted at suture but extending to sides; the hind angle of prothorax also inclined to reddish; legs and antennae black, tarsi and basal segments of the latter red.

Head rounded and narrowly bordered in front, strongly pubescent and subopaque, antennae long and narrow, extending beyond base of prothorax, segment 1 stout, 2 very small, 3 shorter than 4, 4 and 5 equal, 6–10 longer and wider than preceding, 11 lanceolate. *Prothorax* convex, widest at middle, sides arcuately narrowed in front, and sinuately so behind; narrow lateral border obliterated about half-way to the front, hind angles small, directed backward, non-carinate, a short sulcus near each; disk closely and indistinctly punctate-setose. *Scutellum* cordate. *Elytra* wider than prothorax, sides subparallel; striate-punctate, with rather large punctures in deeply impressed striae; intervals wide, moderately convex,

on dark areas transversely rugose. *Underside* strongly pubescent. *Dim.* $4\frac{1}{2}$–5 × $1\frac{1}{2}$ mm.

Hab.—South Australia (Macleay Museum).

Two examples on a card are easily distinguished by pattern from all described species. Holotype in the Macleay Museum.

PARACARDIOPHORUS QUADRISTELLATUS, n. sp. Pl. ix, fig. 1.

Oblong-ovate; subnitid black above, beneath and appendages, except tarsi; elytra with four small orange spots, two premedial, two postmedial on the 6th and 7th intervals; tarsi red.

Head with short silvery pubescence, antennae long and stout, dull black, extending beyond the base of prothorax, the segments rather widely triangular, 1 stout but shorter than usual, 2 very small, 3 smaller than 4, 3–10 subtriangular, 11 elongate-oval. *Prothorax*: length and breadth subequal, moderately convex, less widened than usual, sides gently arcuate, not sinuate behind, posterior angles acute, subtriangular, directed backward; lateral border abruptly terminated about three-fourths from base; disk with a double system of punctures, the larger punctures distinct and rather close, sparse pubescence at sides. *Scutellum* pentagonal. *Elytra* at shoulders slightly wider than prothorax, sides sub-parallel; striate-punctate, the striae wide and deep; intervals convex and rugose. *Dim.* 4 × 1 mm. (approx.).

Hab.—N. Territory: Port Darwin (W. K. Hunt).

Two examples in the South Australian Museum are unlike anything in the genus, with slight difference of structure (less widely ovate prothorax, sharper hind angles), but with incomplete lateral border, as in others. Type series in the South Australian Museum.

PARACARDIOPHORUS RUFOPICTUS, n. sp. Pl. viii, fig. 12.

Biovate, convex; upper surface brownish-black, variegated with red, underside brownish-black, abdomen with medial stripe yellow; appendages testaceous. The whole with pale pubescence.

Head densely pubescent, apical half reddish; antennae long and slender, segment 1 tumid, 2 and 3 each shorter than 4, 4–10 subequal and subconic, 11 lineate-ovate. *Prothorax* in ♂ confusedly variegated, in (?) ♀ the red is confined to a marginal band at apex. Ovate, widest in front of middle, sides feebly sinuate behind, the hind angles briefly triangular; disk pubescent, with moderately strong punctures, lateral carina continuous beyond middle. *Scutellum* cordate. *Elytra* convex, ovate; striate-punctate, the seriate punctures large, placed in deep striae; intervals wide and convex, pubescent, especially at sides and apex. An orange patch covering shoulders, produced along sides and some disconnected red patches, in longitudinal streaks. Underside black, abdomen with medial area yellow. *Dim.* 4 × 1 (+) mm.

Hab.—Western Australia (Duboulay, in British Museum).

Two examples sent by Dr. Blair, amongst others, show a pretty and distinct little species. Holotype in the British Museum.

PARACARDIOPHORUS SEXNOTATUS, n. sp.

Ovate; nitid black above and beneath, vaguely pubescent, elytra each with three red maculae, one round at base, a second near sides at basal third, a third, the largest, oblong, on apical third, behind the second; underside glabrous, appendages red.

Head lightly pubescent, antennae mutilated. *Prothorax* robust, convex, widest at middle, sides well rounded, narrowed on front half, lightly sinuate behind; hind angles short and wide, in one example pubescent at apex; lateral carina extending half-way to front; disk uniformly covered with a dual system of punctures, the larger very distinct. *Scutellum* cordiform. *Elytra* slightly wider than prothorax at base and more than twice as long; sulcate-punctate, the sulci wide and deep, intervals very convex and strongly punctate. *Dim.* 5 × 2 (vix) mm.

Hab.—Queensland: Cape York.

Four examples, two in the Queensland Museum, and two in the National Museum, Melbourne, are easily recognizable by the strong sculpture of the elytra, besides the distinct pattern. Holotype in the Queensland Museum.

PARACARDIOPHORUS STELLATUS, n. sp. Pl. ix, fig. 5.

Ovate; nitid black above and beneath; elytra with basal third red, the rest black, with two round testaceous spots, one on each, at apical third. Upper surface rather densely griseo-pubescent; elytra with long upright hair; palpi and tarsi red, basal segments of antennae partly red.

Antennae slender, extending slightly beyond the base of prothorax, segment 1 stout, as long as 2 and 3 together, 4–10 subtriangular successively slenderer, 11 oval. *Prothorax* convex, ovate, widest near middle, sides subsinuate behind the short, subtruncate hind angles directed backward, the narrow raised border terminating abruptly at three-fourths length from base, a short indistinct basal sulcus; disk distinctly, rather closely, punctate. *Elytra* elongate-ovate, wider than prothorax at base; striate-punctate, striae well marked, strial punctures large, elongate; intervals flat except at extreme base, the 6th here strongly convex; intervals finely setose. *Dim.* 4–4½ × 1½ mm.

Hab.—New South Wales: Tamworth (A. M. Lea, in Department of Agriculture).

Two examples taken by my old friend are, in colour, nearest *P. dimidiatus* Schw., but smaller, more pilose, with the basal red mark shorter and the two testaceous spots in addition on the elytra, the antennae more slender, their segments shorter. A third example is in the South Australian Museum. Holotype series presented to the Australian Museum.

PARACARDIOPHORUS SUBCRUCIATUS, n. sp. Pl. ix, fig. 8.

Narrow, elongate; nitid black above and beneath; feebly pubescent, elytra with four testaceous maculae, arranged in a somewhat cruciform manner—two starting from sides at shoulder, obliquely narrowing to a point on 4th interval at basal third, two wider, subrhomboidal, extending from the 2nd interval, post-median, and extending backward to sides; hind angles of prothorax variably testaceous, legs testaceous, antennae infuscate with basal segments yellow.

Head finely punctate, lightly pubescent, antennae extending to base of prothorax, segment 1 strongly tumid, 2 smaller but tumid, 3 narrowly lineate, 4–10 narrowly oval, 11 lineate. *Prothorax* narrower than usual, convex, widest in front of middle, lightly narrowed in front, a longer convergence behind, without sinuation; lateral border extending three-quarters of the distance to the front margin, hind angles small, acute, an obscure neighbouring sulcus; sparsely and minutely punctate. *Scutellum* cordate. *Elytra* little wider than prothorax at shoulders, sides subparallel; striate-punctate, strial punctures close, well defined except near suture, intervals convex, cross-wrinkled on the dark areas. Underside subglabrous, almost impunctate. *Dim.* 3–3½ × 1 mm.

Hab.—South Queensland: Tambourine Mountain (A. M. Lea and A. Musgrave), Wide Bay (Australian Museum).

Four examples of this pretty little species are before me. In two examples the apices of elytra are reddish. Holotype in the Australian Museum.

Var.—Examples from the Richmond River, in the N.S.W. Department of Agriculture, taken by the late W. W. Froggatt, have the maculae so connected as to form two curved vittae, but there is little doubt of these being conspecific.

Paracardiophorus subfasciatus, n. sp. Pl. ix, fig. 13.

Whole surface, above and beneath, more or less red, sparsely pubescent, pronotum darker than elytra, the latter with wide postmedial fascia dark brown; legs and antennae yellow.

Head punctate, pubescent, antennae very slender, lineate, extending to base of prothorax, 2–3 subequal and short, 4–10 subequal, 11 needle-like. *Prothorax* tumid, length and breadth subequal, sides nearly straight, slightly widened to anterior third, thence arcuately converging to front, feebly narrowed behind, without sinuation; lateral border very short, only apparent to posterior fourth; disk closely and finely punctate, with short, bristly hair at sides and apex. *Scutellum* cordate with medial depression. *Elytra* of same width as prothorax, sides subparallel; striate-punctate, with coarse, close punctures set in well-defined striae, intervals convex, subrugose on apical half. Underside and legs strongly pubescent. *Dim.* $5\frac{1}{2} \times 1\frac{1}{2}$ mm.

Hab.—N.W. Victoria: Sea Lake (J. C. Goudie), Ouyen (J. E. Dixon.).

One each taken by my old brother coleopterists, include the sexes, the smaller, from Ouyen, being a ♂. Holotype in the Australian Museum.

Paracardiophorus varians, n. sp. Pl. viii, fig. 13.

♂. Oblong; densely pubescent, whole surface more or less dull red, the elytra with apical half variably infuscate; appendages stramineous.

Head punctate and pubescent, antennae not quite reaching base of prothorax, segments 2 and 3 shorter than 4, 4–10 subtriangular. *Prothorax* convex, narrower than usual, length and breadth subequal, widest near middle, lightly contracted in front, more strongly and subsinuately behind, hind angles briefly triangular, with blunt apex, disk closely punctate, asperate, and pubescent. Lateral carina extending less than half-way to front. *Elytra* elongate-ovate, sides nearly straight; striate-punctate, the striae narrow, the serial punctures irregular and ill defined, intervals nearly flat, feebly raised at extremities, densely pubescent, as also the underside. *Dim.* $4–5 \times 1\frac{1}{4}$ mm.

Hab.—Minnie Downs, N.E. Corner of South Australia (L. Reese), also Charters Towers and Rockhampton, Queensland (A. M. Lea).

Var., or ♀, differing only in having the pronotum black, sometimes with front corners red, and the elytra with apical half more or less black and the humeral region brick-red. (The Queensland examples are amongst these.)

Fifty-three examples are amongst the material sent from the South Australian Museum, of which 44 are from Minnie Downs, that I consider conspecific, though showing great colour variation. Twenty-nine have the red, 24 the black pronotum, the underside being red in both series. The majority, at least, of the former are ♂, of the latter ♀, a colour sexual difference noted in other species of the genus. It is not *P. mjöbergi* Elst.—a paler and more nitid species. Type series in the South Australian Museum.

PARACARDIOPHORUS VITTIPENNIS, n. sp. Pl. ix, fig. 11.

Head, prothorax and underside nitid black, the prothorax with all its angles widely red, elytra with alternate intervals black and testaceous, antennae and legs red.

Head pubescent, not, apparently, punctate, antennae scarcely extending to base of prothorax, segments 2 and 3 smaller than rest, 4–10 shortly triangular, 11 oval. *Prothorax* convex, wider than long, widest near middle, sides with long arcuation to front and shorter, sinuate, convergence behind, lateral border terminated abruptly rather behind middle; disk uniformly very densely and finely punctate, a fine, short, basal sulcus. *Scutellum* cordate. *Elytra* as wide as prothorax, subovate, longitudinally arched; striate-punctate, striae well impressed, strial punctures small, intervals convex, lightly cross-wrinkled on apical half. *Dim.* 5 (vix) × 1½ mm.

Hab.—Victoria: Lakes Entrance (F. E. Wilson).

A distinct species, differing from *alternatus* by colour and very different sculpture of the pronotum, in which it is unlike any other seen by me, the tiny punctures being densely packed, yet separate. There is a round patch at the front angles, the red at the hind angles extending to the sulcus. Holotype in Coll. Wilson.

VAR.—Another example sent by Mr. Wilson has the hind angles of prothorax black, apex of pronotum red and the elytral vittae less regular, but it is clearly conspecific. National Park, Victoria (R. Blackwood).

CARDIOTARSUS MJÖBERGI, n. sp.

Oblong-oval; castaneous above and beneath, with pale recumbent pubescence; antennae and legs pale red.

Head: clypeus oval, its margin raised; forehead punctate and pubescent; antennae extending to base of prothorax, segments stout, elongate subtriangular, 1st tumid, 2nd and 3rd equal and together as long as the 4th, 4–10 subequal. *Prothorax* longer than wide, sides slightly widened near middle, lightly narrowed each way, sides nearly straight behind to the short, backwardly-directed hind angles; disk finely, not closely, punctate, without sign of middle line; lateral carina as in *Paracardiophorus*, ending abruptly two-thirds of the distance from base. *Scutellum* subcordate, depressed in middle. *Elytra* as wide as prothorax and more than twice as long, narrowing gradually to apex; at base angulate on each side of the scutellum: striate-punctate, the rather indistinct punctures set in deep striae, intervals convex and punctate-setose; sides and apical half strongly pubescent. Underside scarcely punctate, prosternum with a well-developed mentonière, the sutures narrow, but more sulcate than in most Paracardiophori. *Dim.* 7 × 2 mm.

Hab.—Tambourine Mountain, Queensland (Mjöberg).

A single example in the Elston collection, Australian Museum, is described as the first recorded Australian species of this genus. Its facies is that of an elongate *Paracardiophorus* with a longer, less convex prothorax and the characteristic cordate 4th tarsi. I am indebted to M. Fleutiaux for indicating its generic status. Holotype in the Australian Museum.

LIMONIUS.

The species of this genus have been generally confused with the Cardiophori (from which they are readily separated by the acute, outwardly directed hind angles of prothorax) in Australian collections. I have nowhere seen it identified;

yet *L. collaris* Cand., the only described Australian species, is one of the commonest of our Elateridae. Seventy-two examples are before from Sydney district (10), Blue Mts. (12), Mittagong (7), Dorrigo (5), Barrington Tops (3), Queensland, chiefly Cairns district (28), Victoria (5). These vary in size from 3½ to 6 mm. long, and considerably in colour as follows: Pronotum with varying amount of red, from the typical "margine antico angulisque posticis rufis" to cases where the whole is red except for a discal spot. The prosternum may be either "aeneo-niger" or red. The head, usually black, is, in a few cases, red, the antennae, usually black with basal segments red, are sometimes wholly red. The word 'serrate' scarcely applies to the segments, which are subtriangular, gradually increasing in width outward. The pubescence also varies in density. The affinity of the genus is apparently with *Poemnites* rather than with *Paracardiophorus*, some examples closely resembling a small *Poemnites litura* Cand. The following appear to be distinct species or, if extreme varieties of *L. collaris* Cand., deserve a name.

LIMONIUS PUBESCENS, n. sp. or var.

Head, pronotum, prosternum and sometimes *abdomen* yellow or red; appendages yellow, apical half of antennae sometimes fuscous; upper surface with dense yellow pubescence, elytra so densely clothed that the darker ground-colour is greatly modified by it. *Dim.* 4–5 mm. long.

Hab.—N. S. Wales: Tweed and Clarence Rivers; Queensland: Tambourine Mountain (A. Musgrave and C. Geissmann).

Eight examples are before me, the pronotum sometimes a little clouded. Holotype in the Australian Museum.

LIMONIUS NIGER, n. sp. or var.

Whole surface, above and below, nitid bronze-black; basal segments of antennae, tarsi and underside of legs (partly) red; sparsely pubescent, with fine whitish hair.

Head more pubescent than the rest; *pronotum* distinctly but finely punctate. Elytral intervals flat, except near base, and more coarsely punctate than pronotum. *Dim.* 4–5 mm. long.

Hab.—N. S. Wales: Barrington Tops (Sydney University Exped.), Ebor (F. E. Wilson).

Eight examples, similar in form to the others, but differing in the almost total absence of colour and slight pubescence. Holotype in the Australian Museum.

LIMONIUS ANGULATUS, n. sp. or var.

Whole surface, above and below, except hind angles of prothorax, black, the angles yellow; legs red; antennae red or with apical half fuscous.

Very similar to the preceding, but upper surface strongly punctate. *Dim.* 4–6 mm. long.

Hab.—Victoria: Woori Yallock; N. S. Wales: Barrington Tops; Queensland: Tambourine Mountain and Cairns district (28 examples). In all, 49 examples, differing from *niger* in its yellow hind angles to prothorax. Holotype in the Australian Museum.

The antennae in all examples of *Limonius* above, extend beyond the base of prothorax, their segments subconic or subtriangular, not serrulate. Segment 1 tumid, 2 and 3 short, 4–10 successively longer and wider at apex, 11 oval.

LIMONIUS PALLIDUS, n. sp.

Head and prothorax (except hind angles) dark red; hind angles and basal margins of prothorax, antennae and legs pale red, upper surface with pale pubescence; underside black, except prosternal process, this red.

Head pubescent and closely punctate, antennae extending to base of prothorax, segment 1 tumid, 2 shorter than 3, 3–10 subequal, lineate-triangular, 11 ovate-lanceolate. *Prothorax* slightly longer than wide, sides lightly widened at middle and sinuate before the divaricate hind angles, these with an inconspicuous carina near and parallel to margins; disk strongly punctate with a well-marked medial channel. *Scutellum* elongate-ovate. *Elytra* as wide as prothorax and nearly thrice as long; striate-punctate, intervals flat except near base and transversely rugose; underside very nitid with sparse pubescence. *Dim.* $6\frac{1}{2} \times 1\frac{1}{2}$ mm.

Hab.—Victoria: Apollo Bay (in National Museum).

VAR.—Upper surface reddish-brown, hind angles of prothorax and adjacent region red.

Five examples before me are clearly distinct from the common *L. collaris* Cand. not only in colour but in larger size, channelled pronotum and coarser sculpture. Three have the elytra more or less pale, in two the darker colour prevails. Holotype in National Museum, Melbourne.

LIMONIUS PYGMAEUS, n. sp.

Narrowly oblong; head and prothorax dark red, elytra yellow, with the sides, suture and apex reddish-brown; underside red, appendages yellow.

Head pubescent, antennae long, extending well beyond base of prothorax, segments subtriangular, successively diminishing in width from 6th to the 10th, 3rd small. *Prothorax* lightly convex, widest at middle, sinuate behind, hind angles well developed, acute, directed a little outwards; disk minutely punctate. *Elytra* slightly wider than prothorax at base; striate-punctate, with rather large seriate punctures, in shallow striae; intervals flat, except near base. *Dim.* 3 mm. long.

Hab.—South Australia (in Macleay Museum).

Two examples seem to belong to this genus. It is smaller and narrower than *L. collaris* Cand. with longer and finer antennae. Type series in the Macleay Museum.

DICTENIOPHORUS BIFOVEATUS, n. sp.

Elongate, oblong; head, prothorax and underside subnitid red, elytra stramineous; antennae and legs black; subglabrous, elytra only with short, light pubescence at sides.

Head: mandibles evident, antennae strongly dentate-serrate, extending considerably beyond base of prothorax. *Prothorax* longer than wide, sides gently narrowed for the greater part, more abruptly at extreme front, hind angles strongly divaricate, acute and carinate; disk with dense, shallow punctures, a fine medial sulcus, obsolescent at apical fourth, and two foveae at apical third. *Scutellum* elongate-ovate. *Elytra* wider than prothorax at base, sides almost parallel, separately and narrowly rounded at apices; striate-punctate, the seriate punctures round and regular, striae well marked, intervals nearly flat, finely punctate and rugulose; underside nearly impunctate, prosternum very minutely so. Legs rather long, tarsi slender. *Dim.* $18 \times 4\frac{1}{2}$ mm.

Hab.—N. S. Wales: Ellenborough, Hastings River district (R. Paxton).

Two examples sent me by their captor, both ♂, differ from *D. ramifer* Cand. not only in colour, but in narrower form and much finer sculpture of the pronotum,

and dentate, not pectinate, antennae. Holotype presented to the Australian Museum.

Dicteniophorus elegans, n. sp.

Elongate, navicular; subnitid pale red; pronotum with medial vitta and hind angles, elytra with suture and lateral margins black. In one example (of 8) the elytra concolorous red. Antennae somewhat infuscate. Body with short, sparse, pubescence. Underside and legs red.

Head subrectangular, with clypeus arcuate, antennae extending to half the length of body, pectinate in ♂, the rami long and slender, emanating from near middle of segments 4–10; strongly serrate in ♀, segment 2 very small. *Prothorax* longer than wide, sides very gradually narrowing to apex, hind angles long, acute, divaricate and carinate; disk densely punctate, sulcate only near base. *Scutellum* elongate, dark red. *Elytra* as wide as prothorax across hind angles and 2½ times as long, gently narrowing to apex; striate-punctate, strial punctures small and regular; intervals nearly flat, closely and finely punctate, with short, thick pubescence at sides. Legs long; hind tarsi, 1 longest, 2, 3, 4 successively shorter, 5 nearly as long as 1. *Dim.* ♂ 11 × 2½ mm., ♀ 14 × 3 mm.

Hab.—Queensland: National Park, Macpherson Range (H. J. Carter), Tambourine Mountain (A. Musgrave and C. Geissmann); N. S. Wales: Macleay River (H. J. Carter).

I took two of each sex in January, 1928, and there are 4 ♀ in the Australian Museum. In the male the prothorax is slightly shorter than in the female examples. Holotype and allotype in the Australian Museum.

In general facies it must be near *Stichotomus fusiformis* Schw., but two characters are inconsistent with their identity: (*a*) The antennal rami *not* springing from the base of segments; (*b*) the hind angles of prothorax clearly carinate.

Dicteniophorus hirticornis, n. sp.

Elongate-ovate; subnitid pale red above and beneath; head red or black, antennae black, legs fuscous, upper surface with recumbent red clothing.

♂. *Head*: clypeal region red, basal area infuscate, antennae extending nearly to the base of prothorax, segments 4–10 strongly dentate-serrate, the margin fringed with upright red hairs, the prominent teeth each with a tuft of longer hair. *Prothorax*: length and breadth equal, sides nearly straight for the greater part, arcuately narrowed near front, non-sinuate behind, hind angles acute, carinate and directed backwards (the exterior margin, at least, in line with rest of lateral border); disk minutely and densely punctate, a short medial sulcus on basal half only. *Scutellum* elongate-oval. *Elytra* of same width as prothorax at base, and 2·6 times longer; striate, striae well marked, seriate punctures obsolete or vague, intervals narrow, equal and lightly convex, rather thickly pubescent at sides and apex. *Dim.* 19 × 5½ mm.

Hab.—Queensland: Johnstone River (H. W. Brown).

Two examples, both male, in the collection of Mr. Brown, show a robust species of bright colour, with unusual antennal characters. There is a tendency to infuscation at the scutellum and the junction of prothorax with the elytra. Holotype generously presented to the Australian Museum.

Dicteniophorus rufolineatus, n. sp.

♀. Elongate-oblong; head, prothorax, above and below, brownish-black, elytra black, with a wide red vitta on each, in general covering intervals 3–4, extending

from base almost to apex, and widening on basal area; abdomen and legs red, tarsi yellow, antennae black, the basal segments red; a dark pubescence at sides and pale recumbent pile beneath.

Head with strong, close, punctures, mandibles prominent, front lightly convex, antennae reaching base of prothorax, strongly serrate from 4–10, 2 very short. *Prothorax* transversely convex, length and width subequal, arcuately narrowed from base to apex, hind angles robust, feebly divergent, strongly carinate; disk with faint indications of medial sulcus on basal half, elsewhere densely, uniformly punctate. *Scutellum* elongate-ovate. *Elytra* lightly obovate, widest behind middle, here wider than prothorax; striate-punctate, the striae fine but clearly cut, the seriate punctures obscure, intervals flat and strongly punctate. *Prosternum* densely, rather strongly punctate, rest of underside minutely so. *Dim.* 15 × 4½ mm.

Hab.—N. Queensland: Cairns (H. Hacker).

A single female example in the Department of Agriculture, Sydney, bears a label in the handwriting of the late W. W. Froggatt. Its elytral markings should render it easy to identify. Holotype presented to the Australian Museum.

♂ latet.

Dicteniophorus quadrifoveatus, n. sp.

Oblong; nitid reddish-brown above, antennae, legs and underside red; finely pubescent.

♂. *Head* subquadrate, mandibles prominent; antennae pectinate, with long, linear rami, emanating from near apex of segments 4–10. *Prothorax*: length and breadth equal; sides almost straightly narrowed to front, hind angles acute, moderately divaricate and carinate; disk finely and densely punctate; a thin medial sulcus not extending to apex and four foveae, two round and deep in front of middle, two smaller at basal third, nearer the sides than front two. *Scutellum* elongate, oval. *Elytra* as wide as prothorax across apices of hind angles and more than thrice as long; striate, seriate punctures subobsolete, intervals widely convex and transversely rugulose; underside glabrous, impunctate. *Dim.* 20–22 × 5½–6 mm.

Hab.—N. S. Wales: Tweed River.

♀ wanting.

Four male examples in the collection of Mr. H. W. Brown, possibly near *D. badiipennis* Cand., described from a single ♂, but Candèze distinguishes his species by the absence of pronotal sulcus and briefly pectinate antennae, neither of which characters applies to the above, in which the rami are unusually long. Holotype presented to the Australian Museum.

Crepidomenus cervus, n. sp.

♂. Narrowly subcylindric-navicular; nitid light fawn colour above and beneath, the apical region, above and beneath, a little clouded and darker; appendages red; a short, sparse pubescence on head and elytra.

Head clearly punctate, two light grooves representing the usual depression, antennae not reaching base of prothorax, 1 tumid, 2 shorter than 3, 3–10 subequal, lineate-triangular. *Prothorax* longer than wide, widest at base, sides very slightly converging to apex, feebly sinuate before the strongly developed hind angles, these very lightly divaricate and strongly carinate; disk with fine, sparse punctures, medial channel fine but distinct on basal two-thirds. *Elytra* of same width as prothorax and almost exactly twice as long, finely tapering to apex; striate-punctate, suture subcarinate, this emphasized by a subsutural sulcus on each side, extending from just behind scutellum to apical third; the striae and

strial punctures very fine, intervals almost flat, with small, distinct punctures, more evident on apical half, obsolescent towards base. Underside subglabrous, minutely punctate.

♀ much larger and wider, antennae shorter, their segments more widely triangular; legs and tarsi wider; prothorax with a deeper and wider medial sulcus; elytral striae and intervals wider, the latter clearly convex on basal region. *Dim.* ♂ 13–14 × 3 mm.; ♀ 19 × 5 mm.

Hab.—Queensland National Park, MacPherson Range (H. J. Carter).

Four ♂, one ♀ before me. The narrow form, almost concolorous surface, reddish-fawn colour, and fine sculpture distinguish it. Holotype and allotype in the Australian Museum.

An example of *C. queenslandicus* Blkb., compared with type by Dr. Blair, differs from the above by smaller size, duller and more roughly punctate surface.

Crepidomenus divaricatus, n. sp.

Above and beneath nitid, reddish-brown, with short, pale pubescence, legs and antennae reddish, tarsi pale red.

Head: anterior margin semicircular, front rather flat, with shallow triangular impression; antennae extending slightly beyond base of prothorax, slender, segment 2 short, 3–10 subequal in length, successively narrowed. *Prothorax* very slightly longer than wide, excluding hind angles, widest behind middle, thence lightly narrowed to front, and sinuate behind, post angles long, divaricate, acute, with a narrow carina near and parallel to the exterior border; disk very nitid, with sparse, fine punctures and a deep, clearly-cut medial sulcus. *Scutellum* elongate-oval. *Elytra* rather wider than prothorax and 2¼ times as long, tapering rather narrowly to apex; striate-punctate, the striae well defined, the strial punctures subobsolete near suture, large and oblong near sides, intervals convex at base and sides, elsewhere nearly flat and minutely punctate; underside glabrous. *Dim.* 15 × 4 mm.

Hab.—Queensland National Park, MacPherson Range (H. J. Carter).

I took three examples in January, 1928. Somewhat of the form of *C. metallescens* Cand., but with longer, more divaricate hind angles. The concolorous mahogany-brown surface is distinctive. Holotype presented to the Australian Museum.

Crepidomenus montanus, n. sp.

Above and beneath blue or greenish-black, with short white pubescence, mandibles, also tip of prosternal process, red, antennae black, legs above more or less concolorous with body, their underside and tarsi reddish.

Head punctate and pubescent; antennae, segment 1 very tumid, 2 shorter than 3, 4–10 successively narrowed. *Prothorax* robust, convex, slightly wider than long, widest behind middle, thence lightly arcuately narrowed to front, a wide, feeble sinuation before the divaricate, strongly carinate hind angles; disk moderately, not closely, punctate, medial sulcus deeply impressed. *Elytra* slightly wider than and 2½ times longer than prothorax; striate-punctate, the striae deep, the intervals subcostate, strial punctures irregular and somewhat confused, with lines of small punctures on sides of intervals. Prosternum and metasternum densely, finely punctate, abdomen sparsely so. *Dim.* 11–16 × 4–5 mm.

Hab.—New South Wales: Mt. Kosciusko (T. G. Sloane, A. Musgrave and H. A. Fletcher), Kiandra (D. G. Stead); Victoria: Bogong Plains (F. E. Wilson).

Twelve examples before me vary in size, and, to some extent, in density of puncturation, the larger examples being female. The dark blue-green colour is more pronounced in some, and more so on the upper than on the under surface. Holotype in the Australian Museum.

Crepidomenus navicularis, n. sp.

Above and beneath nitid, dark castaneous, head, antennae and legs black or nearly so, with sparse, whitish pubescence. Elytra with basal margins and apices darkened.

Head with coarse, sparse punctures, front with wide, subtriangular impression, antennae not extending to base of prothorax, segments lineate, 2 shorter than 3, 3–10 successively finer and shorter. *Prothorax* clearly longer than wide, widest near base, thence lightly narrowed to front, hind angles scarcely, or feebly divergent, rather thick with long carina not very close to lateral margin; disk coarsely and rather irregularly punctate, with some smooth spaces, the punctures more closely clustered near sides; medial sulcus wide and deep. *Elytra* of same width as prothorax and 2½ times as long, tapering finely to apex; striate-punctate, the suture a little raised and bordered by subsutural sulci; striae indistinct on apical third, seriate punctures round and distinct; intervals narrow, convex at base and strongly punctate. Flanks of prosternum minutely punctate, the rest of underside impunctate. *Dim.* 16 × 4 mm.

Hab.—New South Wales: Richmond River (W. W. Froggatt).

Two examples before me combine dark-red colour, navicular form with coarsely punctate surface. Holotype in the Australian Museum.

(?) *Crepidomenus luteipes* Boh. = *C. cyanescens* Cand.—A probable synonymy from close similarity of description.

Acroniopus pallidus Blkb. (Elston Coll.) = *A. rufipennis* Macl., if Elston's determination be correct.

Tenebrionidae.

Gonocephalum hispidocostatum Fairm. = *G. costipenne* Cart.—This synonymy has not been published, though my suspicions of it were endorsed some time ago by Dr. K. G. Blair. It is one of the many species found on both sides of Torres Strait.

The following is a list of Australian Tenebrionidae known to occur beyond Australia, excluding cosmopolitan species.

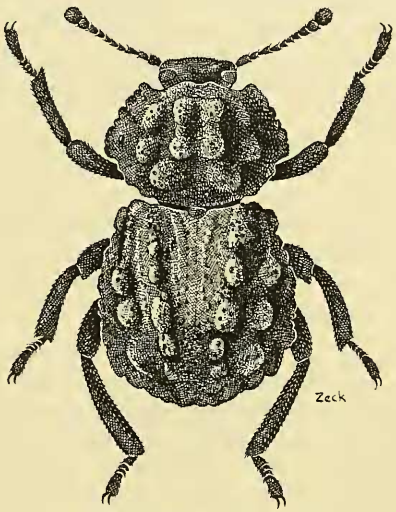
Amarygmus jodicollis Guér.
A. morio F.
Bradymerus crenatus Pasc. (= *B. granaticollis* Fairm.)
B. nigerrimus Geb.
B. raucipennis Blkb.
Byrsax pinnaticollis Cart.
Ceropria immaculata Geb.
C. maculata Geb.
C. peregrina Pasc.
Chalcopterus bellus Blkb.
C. cyanopterus Hope.
C. modestus Blkb.
Chariotheca planicollis Fairm.
Dioclina nitida Cart.
Diphyrrhyncus nicobaricus Redt. (= *D. apicalis* Champ.)
Doliema spinicollis Fairm.
Encyalesthus atroviridis Macl.
Espites basalis Pasc.
Gonocephalum arenarium F.
G. hispidocostatum Fairm.
G. planatum Walk.
Hypophloeus analis Geb.
Leichenum seriehispidum Mars.
Leiochrodes suturalis Westw.
Lyprops atronitens Fairm.
Mesomorphus viliger Blanch.
Microcrypticus scriptipennis Fairm.
Notostrongylium rugosicolle Cart.

Palorus austrinus Champ.
P. pygmaeus Cart.
Platolenes hydrophiloides Fairm.
Platydema detersum Walk. (= *P. valga* Pasc., etc.)
P. striatum Montr.
Scotoderus aphodioides Pasc.
Setenis sulcigera Boisd.
Toxicum punctipenne Pasc.
Zophophilus curticornis Fairm.

MYCHESTES LATICOLLIS, n. sp. Text-fig. 1.

Widely ovate; opaque fawn colour.

Head vertical, unseen from above, epistoma rounded, antennal orbits ear-like and raised; antennae stout, biclavate, apical segment subspherical, the preceding (9th) cup-shaped. *Prothorax* very wide ($2\frac{1}{2} \times 4$ mm.) and convex, apical third subvertical, largely overhanging head; foliate margins thick and forming a widely



Text-fig. 1.—*Mychestes laticollis*, n. sp.

rounded wing, at basal third excised and obliquely narrowed to base, extreme edge irregularly crenulate; discal area with medial concavity bounded by longitudinal ridges, each formed by two large, oblong tubercles, not quite connected and small tubercles behind these, two large and some smaller tubercles forming the lateral edge of disk. *Elytra* of same width as prothorax at their immediate junction, widely ovate behind this and very convex, without evident lateral foliation, as seen from above; surface with sparse tubercles of unequal size, subseriately placed, more or less, in four rows, and becoming smaller towards apex, apical margins finely crenulate; the larger tubercles, both on prothorax and elytra, dotted with small black pustules. Underside squamose, abdomen more or less glabrous. *Dim.* 7×4 mm.

Hab.—N. Queensland: Mulgrave River (H. Hacker).

A single example sent by Mr. Clark is quite distinct from the species tabulated by me (*Trans. Roy. Soc. S. Aust.*, 1937, p. 129) though nearest in sculpture to *M. ordinatus* Cart., from which it is separated by (*a*) smaller size and unusual relative width, (*b*) abbreviated form, its prothorax and elytra forming two wide ovals, (*c*) the larger tubercles dotted with small pustules (a feature only seen in *M. pascoei* Macl. of other Australian species). Holotype in the National Museum, Melbourne.

PTEROHELAEUS LATIFOLIUS, n. sp.

Oblong; nitid dark brown with a reddish tinge, foliate margins red, underside and appendages, including tarsi, dark.

Head almost impunctate; epistoma truncate and flat in front, oblique and raised at sides, making a wide angle with the well-raised, rounded antennal orbits; eyes large, separated by a space less than the diameter of one; antennae: segment 3 not as long as 4–5 together, 8–11 transverse, oval. *Prothorax* (3 × 10 mm., length in middle): subhorizontal foliation occupying half total width; widest at base, thence arcuately narrowed to apex, anterior angles well advanced and rounded, posterior acute and lightly falcate; extreme border thinly reflexed; disk rather flat, very minutely and sparsely punctate, medial line faintly indicated by shallow depression and feeble basal fovea. *Scutellum* semicircular. *Elytra* (14 × 11 mm.): foliation wide and lightly concave throughout, narrowed only at extreme apex; humeral angle sharply rectangular, sides nearly straight; striate-punctate, intervals narrow and subplanate, with faint signs of smooth strigae towards apex. Underside of head with deep transverse strigae on neck, prosternum more finely striolate, as also abdomen, otherwise surface nitid and glabrous. *Dim.* 20 × 13 mm.

Hab.—Victoria: Bendoc, East Gippsland (F. E. Wilson).

A fine species of Macleay's Sect. ii, Subsect. i, but differing from the majority of these by its almost flat elytral intervals. Its colour is that of *rubescens* Cart., sculpture nearest *planior* Cart. While diffident in adding to the long list of this genus, I consider a species so distinct deserves a name. Holotype in Coll. Wilson.

EUTHERAMA COERULEUM, n. sp.

Obovate, rather strongly convex; above nitid dark blue, beneath and greater part of femora reddish, base of femora, tibiae, tarsi and antennae blue.

Head: epistoma slightly rounded and finely punctate, forehead more coarsely so; antennal orbits raised and rounded, antennae very long, segment 1 stout, 2 half as long as 1, oval, 3–6 sublineate, 3 longer than 4, 8–10 subconic and subequal, much wider than preceding, 11 ovoid, of same size as 10. *Prothorax*: apex subcordiform, widest at middle, anterior angles rounded off, sides rounded and lightly bordered, posterior angles obtuse, base truncate; disk irregularly and rather coarsely punctate, the punctures more sparse in middle, without sign of medial line, a biarcuate, transverse sulcus near base connecting basal foveae. *Scutellum* triangular, punctate. *Elytra* closely applied to prothorax and of same width at junction, widest and greatest convexity behind middle; sulcate punctate, each elytron with 9 sulci, besides a short scutellary one, containing close-set punctures, the convex intervals themselves finely punctate; sternal regions rugose-punctate, abdomen finely punctate. *Dim.* 8 × 3 mm.

Hab.—N. Qland: Wolfram (S. H. Parlett).

A single example in the collection of Mr. F. E. Wilson is clearly a close ally to *E. cyaneum* Cart., the only other species of the genus from which it differs in colour (whole upper surface blue), the wider and non-sulcate prothorax,* and the coarser punctures of the prothorax and elytra. Holotype in Coll. Wilson.

* In *E. cyaneum* Cart. the prothorax has a distinct medial sulcus which was not mentioned in its description.

N.B.—The dimensions are wrongly given in the original description of *E. cyaneum*. The correct dimensions of the type are 7 × 2¾ mm. Other examples in the South Australian Museum measure 6½ × 2½, 6¼ × 2¼, and 7 × 2½ mm. respectively.

Dystalica gracilis, n. sp.

Elongate-oblong; subopaque black, antennae and tarsi reddish, clothed above with short bristly hair.

Head subtriangular, granulose punctate and pubescent, maxillary palpi long, their basal segments red, apical securiform, antennae extending beyond base of prothorax, segments 1 and 2 short, 3 as long as 4–5 together, 4–8 submoniliform (rather longer than wide), 9–10 rounder, wider than preceding, 11 oval, large. *Prothorax* wider than long, apex arcuate, anterior angles about 60°, sides lightly widened near middle, narrowed each way, without sinuation; base with medial area extended to form a narrow rectangular lobe, hind angles obtuse, lateral margins fringed with bristly hair; disk almost uniformly covered with alveolate, umbilicate punctures. *Scutellum* transversely oval. *Elytra* wider than prothorax at base and about 2½ times as long; sides parallel; striate-punctate, with large close punctures set in deep striae, intervals convex, cancellate, with fine punctures and pustules along their whole length. Prosternum transversely rugose, metasternum and abdomen densely and coarsely punctate, the latter alveolate, tarsi pilose. *Dim.* 8 × 2½ mm.

Hab.—New South Wales: Warialda.

A single example sent by Mr. J. G. Brooks is an ally of *D. angusta* Cart., but a still narrower insect, with a general facies of an elongate *Cestrinus* and, like its congeners, distinguished by its asperate surface. The elytral intervals, under a strong lens, have a somewhat zig-zag outline, due to the impinging of the large punctures on their sides. Holotype in the Australian Museum.

Curculionidae.

Talaurinus suttoni, n. sp.

Elongate-ovate; black or brownish, depressed areas (in one example) densely clothed with greyish scales, forming three vittae on the prothorax and more irregular depressions on elytra. Beneath black with some small irregular patches of grey scales on the medial regions.

Head: rostrum deeply excavate, external ridges very slightly divergent, sparsely punctate, continuous almost to extreme base of head, in front fasciculate, the fascicles meeting in front; internal ridges little prominent, meeting behind; scrobes open behind. *Prothorax* (6 × 7 mm.): sides lightly rounded, widest in front of middle, base not sinuate, with four irregular, compound rows of large, rounded tubercles, the lateral rows crenulating sides, the internal rows more irregularly clustered and less flattened than in *T. fergusoni* Cart. *Elytra* (18 × 10 mm.) ovate, apex shortly and bluntly mucronate; base arcuate, humeral angles prominently tuberculiform; sculpture consisting of three rows of large, oval or round tubercles and more closely set rows of small tubercles; of the large tubercles, rows 1 and 2 contain from 4 to 6, the 1st in row 1, at some distance from base, the last on apical declivity; in row 2, the 1st is at base, the last near apex; the 3rd row (sublateral) contains 10 or more; beyond the 3rd the tubercles scarcely seriate. Of the small tubercles, two rows form the sutural edges, towards scutellum becoming joined to form a furcate carina, continued along base to 1st row of large tubercles, a 2nd geminate series between the 2nd and 3rd rows of large tubercles; others irregularly scattered over depressed areas. Abdominal segments depressed in middle, the apical more notably so and notched at apex. *Dim.* 25–28 × 9–10 mm.

Hab.—South Queensland: Wyberba (E. Sutton).

Two examples, both (?) ♀, from this prolific region have been sent by their captor. It is nearest to *T. subvittatus* Ferg. and *T. fergusoni* Cart., but is readily distinguished from the former by larger size, longer rostrum, surface tubercles larger and differently placed. From the latter it is further separated by its less wide prothorax, less flattened tubercles thereon, and the presence of a system of smaller tubercles on elytra. Holotype in the Australian Museum.

A third example received since the above description was written is, I think, ♂.

MYTHITES VARIABILIS, n. sp.

Rather dull black, ovate, elytra flattened or depressed in middle. ♂ with patches of black tomentum in middle of abdomen, with grey scales elsewhere.

Head deeply excavate in middle, rostrum not separated from head by transverse sulcus, with two subparallel ridges on each side, each feebly converging behind, forehead convex, sometimes widely subcarinate, sparsely punctate, scrobes open behind. *Prothorax*: length and breadth equal (4 mm.), widest in front of middle, sides lightly rounded and crenulated by large tubercles, apex and base arcuate, disk vermiculate-tuberculate, medial sulcus distinct, bordered by vermiculate tubercles; exterior to these with irregular, discrete tubercles, with some more or less elongate depressions clothed with grey scales. *Elytra* obovate (9 × 11 mm.), considerably wider than prothorax, shoulders with prominent tubercles embracing the rounded hind angles of prothorax, widest behind middle; with rows of very large foveae, the two interior rows compound, each of two rows confusedly combined between wide undulate costae, 3rd row (lateral) of single foveae, the sutural area, including the first double row, depressed between undulate costae. ♀ larger, abdomen sublaevigate, more or less convex. *Dim.* ♂ 14–17 × 6–7½ mm.; ♀ 18–20 × 7½–9 mm.

Hab.—South Queensland: Wyberba, Fletcher (E. Sutton), Stanthorpe (Von Wieldt).

Eleven examples before me differ greatly in size and sculpture, but I cannot separate them by any definite character. The smooth, wide carina on head in some examples, shows only slightly in others, or is wanting. In 3 examples there is a small mucro at apex.

The variations of sculpture consist of irregularity in size and number of foveae, and of the undulate costae, the first generally continuous throughout, the 2nd and 3rd varyingly discontinuous. The suture is bounded by fine carinae which in some of the larger examples are more or less granulate. Holotype and allotype presented to the Australian Museum.

DESCRIPTION OF PLATES VIII-IX.

Plate viii.

1.—*Melanoxanthus flavosignatus*, n. sp.
2.—*M. jucundus*, n. sp.
3.—*M. columbinus*, n. sp.
4.—*M. biarctus*, n. sp.
5.—*M. semiruber*, n. sp.
6.—*M. insolitus*, n. sp.
7.—*M. lativittis*, n. sp.
8.—*Paracardiophorus litoralis*, n. sp.
9.—*Hypnoidus flavopictus*, n. sp.
10.—*Paracardiophorus atronotatus*, n. sp.
11.—*Melanoxanthus rufoniger*, n. sp.
12.—*Paracardiophorus rufopictus*, n. sp.
13.—*P. varians*, n. sp.
14.—*P. cooki*, n. sp.

Plate ix.

1.—*Paracardiophorus quadristellatus*, n. sp.
2.—*P. carissimus*, n. sp.
3.—*P. assimilis*, n. sp.
4.—*P. octosignatus*, n. sp.
5.—*P. stellatus*, n. sp.
6.—*P. amabilis*, n. sp.
7.—*P. dulcis*, n. sp.
8.—*P. subcruciatus*, n. sp.
9.—*P. occidentalis*, n. sp.
10.—*P. alternatus*, n. sp.
11.—*P. vittipennis*, n. sp.
12.—*P. nigrosuffusus*, n. sp.
13.—*P. subfasciatus*, n. sp.